SUBJECT INDEX

accretion rate
  extraterrestrial particles 1383
acetate cycling 2477
acid-base equilibria
  aqueous H_2S 2047
acoustic velocity
  Na aluminosilicate melts 283
actinides
  in granite 1131
  seawater scavenging 669
activation energy
  aqueous diffusion 63
  Ar diffusion 2165, 2167
  organic degradation reactions 341
activity coefficient
  Na_2SO_4(aq) 2393
adsorption
  active carbon
    As, Sb, V 2871
  of Al by clay 55
  deep-sea sediments 201
  in dissolution 2609
  on hydrothermal particles 2525
  in marine electrolytes 627
  O on pyrite 1077
  organic acids 1667
  Pb on Mn oxide 1765
  of water 3017
  Zn on calcite 2281
adsorption kinetics 567
  of Al 55
  of Th 113
advection
  metasomatism 143
Africa
  Angola Margin 2207
  Lake Tanganyika 1711
  Zaire 19
Ag in meteorites 1835
aggregation
  iron colloids 1123
akermanite
  Raman spectra 1961
Al
  in altered silicates 1905
  in chondrules 309
  in clay minerals 2269
  in deep-sea sediments 2925
  in hibonite ($CaAl_{12}O_{19}$ and $CaAl_4$), 1729
  in lunar glass 2379
  in Mediterranean brines 2107
  in metalliferous sediments 2369
  in natural waters 1879
  in pelagic sediments 669
  in peridotite 2893
  in seawater 2955
  in silicate glass 2405
  in silicate melts 1827
  in sodium silicate melts 283
  in volcanic emissions 39
albite
  Ar loss 1097
  glass structure 2405
  high pressure liquid-solid equilibria 283
  XPS 1641
Aleutian arc magma 1351
alkali elements
  in silicate melts 527
  in thermal waters 2749
alkali-feldspar granite 2507
alkalic carbonatite 937, 939
alkaline earth elements in chondrules 1699
alkaline rocks
  ocean islands 2979
alkalinity in groundwater 2693
alkanes
  in Antarctic sediments 217
  bibyclic 491
  normal 701
  Proterozoic 1747
alkenones
  unsaturated patterns 2303
alkylbenzenes in sediments and oils 2671
Allan Hills, Antarctica 1835
allanite REE 1131
Alligator River, Uranium Province,
    Australia 2555
alteration
  basalt 2269
  hydrothermal 2169
  REE 767
Alteromonas putrefaciens 2727
Amazon deep-sea fan, Atlantic Ocean 839
amino acids
  in fossil bone 225
  in fossil collagen 929
  in sediments 1571
ammonium-phlogopite
  synthetic 1275
amphiboles
  Ar loss 2457
  Japanese arc 2037
  K-Ar age 2165, 2167
Anadarko Basin, Oklahoma, USA 491
anaerobic sediments in an anoxic fjord 129
anatexis
  isotopic evidence 2235
  mantle 449
Angola Margin, Africa 2207
anhydrite solubility 821
Announcements 249, 250, 801, 802, 953,
    955, 1321, 1744, 2187, 2553, 2739,
    3027
anorthite in weathering 2785
anorthosite
  lunar 1795
Antarctica 1373
  Allan Hills 1835
  Bransfield Strait 217
  Elephant Moraine 1309
  lakes 1265
  McMurdo Sound 217
  meteorites 1593, 1679
  streams 1265
  Vestfold Hills 2321
apatite
  in carbonatite 209
  O isotopes 2565
  REE 177, 1131
  in Shergotty 2147
aquifers 2993
Ar
  in Allende 679
  chondrite ages 2487
  in feldspar 1097
  in fluid inclusions 1443
  in meteorites 1649, 1937
  in silicate minerals 655
Ar isotopes
  in amphibole 2457
  in biotite 2457
  diffusion 2165, 2167
  in meteorites 1113
  in natural gas 851
  in silicates 1295
  in silicic rocks 1425
  in springs 1919
  volcanic rocks 1435
Ar loss by shock-heating 2639
^{40}Ar in minerals 1449
$^{40}Ar/^{39}Ar$ in biotite 2457
Arabian Sea
  Oman Sea
    Gulf of Aden 839
aragonite
  organic acid adsorption 1667
arc volcanism
  ^{10}Be 237
Archean-Proterozoic boundary 785
Arctic Ocean
  Baffin Bay 2543
arkose diagenesis 2207
aromatic hydrocarbons in source rocks 2879
As
  in altered rock 1905
  in geothermal waters 475
  oceanographic distribution 2871
  in pyrite 475
  in sediment 2293
asphaltene biomarkers 2337
Atlantic Ocean 1849, 2871
  Bermuda 1719
  Cape Verdes 2979
  Galicia Margin 1361
  Greenland Sea 1373
  Madeira Abyssal Plain 2925
  Mid-Atlantic Ridge 1711
  Nares Abyssal Plain 2925
  North 1373, 2871
  Norwegian Sea 1373, 2077
  Porcupine Abyssal Plain 1557
atmosphere
  dust input to Mediterranean 2107
  He isotopes 1305
  volcanic additions 39
atmospheric flux
  volcanic Pb, Bi and Tl 245
Au
  in altered rock 1905
  in meteorites 1835
Auger Electron Spectroscopy 385
  weathered hornblende 2537
augite
  He diffusion 1449
  REE 1131
Austral Islands, Pacific Ocean 2909

SUBJECT INDEX

accretion rate
  extraterrestrial particles 1383
acetate cycling 2477
acid-base equilibria
  aqueous H_2S 2047
acoustic velocity
  Na aluminosilicate melts 283
actinides
  in granite 1131
  seawater scavenging 669
activation energy
  aqueous diffusion 63
  Ar diffusion 2165, 2167
  organic degradation reactions 341
activity coefficient
  Na_2SO_4(aq) 2393
adsorption
  active carbon
    As, Sb, V 2871
  of Al by clay 55
  deep-sea sediments 201
  in dissolution 2609
  on hydrothermal particles 2525
  in marine electrolytes 627
  O on pyrite 1077
  organic acids 1667
  Pb on Mn oxide 1765
  of water 3017
  Zn on calcite 2281
adsorption kinetics 567
  of Al 55
  of Th 113
advection
  metasomatism 143
Africa
  Angola Margin 2207
  Lake Tanganyika 1711
  Zaire 19
Ag in meteorites 1835
aggregation
  iron colloids 1123
akermanite
  Raman spectra 1961
Al
  in altered silicates 1905
  in chondrules 309
  in clay minerals 2269
  in deep-sea sediments 2925
  in hibonite ($CaAl_{12}O_{19}$ and $CaAl_4$), 1729
  in lunar glass 2379
  in Mediterranean brines 2107
  in metalliferous sediments 2369
  in natural waters 1879
  in pelagic sediments 669
  in peridotite 2893
  in seawater 2955
  in silicate glass 2405
  in silicate melts 1827
  in sodium silicate melts 283
  in volcanic emissions 39
albite
  Ar loss 1097
  glass structure 2405
  high pressure liquid-solid equilibria 283
  XPS 1641
Aleutian arc magma 1351
alkali elements
  in silicate melts 527
  in thermal waters 2749
alkali-feldspar granite 2507
alkalic carbonatite 937, 939
alkaline earth elements in chondrules 1699
alkaline rocks
  ocean islands 2979
alkalinity in groundwater 2693
alkanes
  in Antarctic sediments 217
  bibyclic 491
  normal 701
  Proterozoic 1747
alkenones
  unsaturated patterns 2303
alkylbenzenes in sediments and oils 2671
Allan Hills, Antarctica 1835
allanite REE 1131
Alligator River, Uranium Province,
    Australia 2555
alteration
  basalt 2269
  hydrothermal 2169
  REE 767
Alteromonas putrefaciens 2727
Amazon deep-sea fan, Atlantic Ocean 839
amino acids
  in fossil bone 225
  in fossil collagen 929
  in sediments 1571
ammonium-phlogopite
  synthetic 1275
amphiboles
  Ar loss 2457
  Japanese arc 2037
  K-Ar age 2165, 2167
Anadarko Basin, Oklahoma, USA 491
anaerobic sediments in an anoxic fjord 129
anatexis
  isotopic evidence 2235
  mantle 449
Angola Margin, Africa 2207
anhydrite solubility 821
Announcements 249, 250, 801, 802, 953,
    955, 1321, 1744, 2187, 2553, 2739,
    3027
anorthite in weathering 2785
anorthosite
  lunar 1795
Antarctica 1373
  Allan Hills 1835
  Bransfield Strait 217
  Elephant Moraine 1309
  lakes 1265
  McMurdo Sound 217
  meteorites 1593, 1679
  streams 1265
  Vestfold Hills 2321
apatite
  in carbonatite 209
  O isotopes 2565
  REE 177, 1131
  in Shergotty 2147
aquifers 2993
Ar
  in Allende 679
  chondrite ages 2487
  in feldspar 1097
  in fluid inclusions 1443
  in meteorites 1649, 1937
  in silicate minerals 655
Ar isotopes
  in amphibole 2457
  in biotite 2457
  diffusion 2165, 2167
  in meteorites 1113
  in natural gas 851
  in silicates 1295
  in silicic rocks 1425
  in springs 1919
  volcanic rocks 1435
Ar loss by shock-heating 2639
^{40}Ar in minerals 1449
$^{40}Ar/^{39}Ar$ in biotite 2457
Arabian Sea
  Oman Sea
    Gulf of Aden 839
aragonite
  organic acid adsorption 1667
arc volcanism
  ^{10}Be 237
Archean-Proterozoic boundary 785
Arctic Ocean
  Baffin Bay 2543
arkose diagenesis 2207
aromatic hydrocarbons in source rocks 2879
As
  in altered rock 1905
  in geothermal waters 475
  oceanographic distribution 2871
  in pyrite 475
  in sediment 2293
asphaltene biomarkers 2337
Atlantic Ocean 1849, 2871
  Bermuda 1719
  Cape Verdes 2979
  Galicia Margin 1361
  Greenland Sea 1373
  Madeira Abyssal Plain 2925
  Mid-Atlantic Ridge 1711
  Nares Abyssal Plain 2925
  North 1373, 2871
  Norwegian Sea 1373, 2077
  Porcupine Abyssal Plain 1557
atmosphere
  dust input to Mediterranean 2107
  He isotopes 1305
  volcanic additions 39
atmospheric flux
  volcanic Pb, Bi and Tl 245
Au
  in altered rock 1905
  in meteorites 1835
Auger Electron Spectroscopy 385
  weathered hornblende 2537
augite
  He diffusion 1449
  REE 1131
Austral Islands, Pacific Ocean 2909

Australia
Alligator River Uranium Province 2555
McArthur Basin 1747
Northern Territory
Georgina Basin 259
Tasmania 2507
Victoria 433, 449
authigenic minerals
evaporites 1037
Mn carbonate 751, 2679
vadose cement 1019

B
in hydrothermal tourmaline 1905
in meteorites 2311
in silicate glass 2405
B mapping
alpha-track images 2311
Ba
in Aleutian arc magmas 1351
in altered silicates 1905
in chondrules 1699
in hydrothermal fluids 659
in mantle xenoliths 433
in mantle-derived nodules 319
in oceanic sediments 1351
Back Arc Basins, Fiji/Lau 2501
bacteria
anaerobic 2993
in diagenesis 2679
in dissolution 2727
methanogens 1895
oxidation of Mn 345
oxidation of sulfide 751
reduction of Mn 751
bacterio-chlorophylls biomarkers 2337
baddeleyite in Shergotty 2147
Baffin Bay, Arctic Ocean 2543
Bakken shale, San Joaquin Basin, USA 2337
basalt
Japanese arc 2037
olivine
Fe, Ni, Co partition 603
shock metamorphism 2775
^{10}Be
arc volcanism 237
in erosion 2687
in oceanic sediments 1351
Be isotopes
production rate of ^{10}Be 499
in volcanic rocks 237
bediasites composition 2085
benzothiophenes in petroleum source rocks 2879
Bermuda 1719
Bi
in meteorites 1835
volcanic emissions 39, 245
Bingham, Utah, USA 1007
biodegradation of steroids 491
biogeochemical cycles marine 2955
biogeochemistry diagenesis 1571
biological recycling
V, As 2871
biomarkers
methyl steranes 2733
in oil migration 2599
Proterozoic 1747, 2525
biotite
Ar isotopes 1295
Ar loss 2457
H and O isotopes 513
pore fluid reactions 2053
Bishop Tuff, California, USA 275
Black Hills, South Dakota, USA 1905
Bluebell Mine, British Columbia, Canada 961
boehmite hydrothermal 2269
bond angles silicate melts 395
bone
collagen studies 2197
fossil collagen 929

BOOK REVIEWS

Advances in Organic Geochemistry, 1985 950
Advances in Petroleum Geochemistry, Vol. 2 2343
Alkaline Igneous Rocks 2343
Annual Review of Earth and Planetary Sciences, Vol. 15 950
Aquatic Surface Chemistry. Chemical Processes at the Particle-Water Interface 1742
The Chemistry of Acid Rain. Sources and Atmospheric Processes 951
Chemistry of Clays and Clay Minerals 1319
Composition, Structure and Dynamics of the Lithosphere-Atmosphere System 797
Cosmic Debris: Meteorites in History 1319
Coupled Processes Associated with Nuclear Waste Repositories 2185
Dynamical Geology of Salt and Related Structures 797
The Earth's Core 589
Elements, Oxides and Silicates. High-Pressure Phases with Implications for the Earth's Interior 1741
Elsevier's Periodic Table of the Elements 1320
The Evolution of the Small Bodies of the Solar System 1742
Exploration Geochemistry: Design and Interpretation of Soil Surveys 797
The Facts on File Dictionary of Geology and Geophysics 2738
Fluid Inclusion Research, Vol. 19 1743
Geochemical Exploration 1985 2737
Geochemistry and Mineral Formation in the Earth Surface 2552
GEOEXPO/86: Exploration in the North American Cordillera 1951
The Geological Disposal of Nuclear Waste 589
Geology and Geochemistry of Abyssal Plains 1951
The Geology of Southern Sinai: Its Implications for the Evolution of the Arabo-Nubian Massif 3025
Global Biogeochemical Cycles, Vol. 1, no. 1 799
The Global Water Cycle: Geochemistry and Environment 590
Gold: History and Genesis of Deposits 1951
Hydrothermal Experimental Techniques 247
Igneous Petrology 798
Inductively Coupled Plasmas in Analytical Atomic Spectrometry 951
An Introduction to Ore Geology 1741
Mafic Dyke Swarms 2552
Magmatic Processes: Physicochemical Principles 949
Mantle Metasomatism 1952
Mantle Xenoliths 799
Mesozoic and Cenozoic Oceans 798
Meteorites and Their Parent Planets 590
Multilingual Thesaurus of Geosciences 2738
Occurrence, Properties and Utilization of Natural Zeolites 3026
Origin and Evolution of the Universe: Evidence for Design 2185
The Physics of the Planets. Their Origin, Evolution and Structure 1952
Practical Problems in Exploration Geochemistry 949
Proceedings of the Eighteenth Lunar and Planetary Science Conference 3026
Radon and its Decay Products in Indoor Air 1953
Sediments and Water Interactions 798
Thin Section Preparation of Soils and Sediments 247
Thunderstones. A Study of Meteorites Based on Falls and Finds in Arkansas 3025
Volcanism in Hawaii 2555
Zur Bildung der Moldavite beim Riesimpackt aus tertiaren Sedimenten 2737

Br
in brines 1037
in fluid inclusions 1037
in halite 1037, 2809
Brae field, North Sea 701, 2879
Bransfield Strait, Antarctica 217
Brazil, Parana
São Mateus do Sul 1955
breccia
lunar 1795
Bresse Basin, France 2809
brine
aqueous H_2S 2047
chemistry 1037
flow through clays 727
fluid inclusions 1027
gas solubility 807
hypersaline 1047
inclusions in halite 485, 2809
Mediterranean 2107
Na-Ca-Mg-Fe-Cl 1007
NaCl-KCl-H_2O 2549
Red Sea 177
solubility models 821
sulphide solubility 813
trace elements 265
Buzzards Bay, Massachusetts, USA 1531, 2477

C
in amino acids 1571
cycling in sediments 1571
in deep-sea sediments 2925
in hydrocarbons 1895
in hydrothermal graphite 1905
in lacustrine sediments 1179
metabolism in deep-sea sediments 2963
in meteorites
isotopic composition 1221, 1235
of organic oxidation 1531
in sedimentary organic matter 259

^{14}C
in marine sediments 1557
in meteorites 1309
C isotopes
in achondrites 917, 925
in bone 2415
in carbonatite 1
in chert 1473
in collagen 929
in deep-sea sediments 2963
in DSDP pore waters 2077
in fluid inclusions 1027
in granite 513
in interstitial water
deep-sea sediments 1169
in meteoritic carbonates 2855
in Mn carbonates 2679
in natural gas 851
in siderite 2445
in subglacial carbonate 2321
C-O-H fluids
fluid inclusions 979
C/N ratio in an anoxic fjord 129
Ca
in brines 1037
in carbonate dissolution 2651
in chondrules 309, 1699
in deep-sea sediments 2925
in fluid inclusions 1007
in halite 1037
in groundwater 2693
in hibonite 1729, 2573
in hydrothermal solutions 2053
in hydroxyapatite 1883
in lunar glass 2379
in mantle xenoliths 433
in natural waters 821
in pelagic sediments 669
in peridotite 2893
in silicate melts 1827
in thermal waters 2749
in zhamanshinite impact glass 779
$CaCl_2$ in NaCl-$CaCl_2$-H_2O fluids 2451
calcite
in achondrites 925
adsorption of Zn 2281
organic acid adsorption 1667
precipitation 1859, 2347
saturation index 1265
calorimetry
boro-alumino-silicate glass 2405
$CaAl_4O_7$ and $CaAl_{12}O_{19}$ (hibonite) 1729
Na_2SO_4(aq) solutions 2393
sulfides 167
Canada
British Columbia
Bluebell Mine 961
Saanich Inlet 129
Elk Point Basin 1027
Mackenzie Shelf 1027
Manitoba
Tanco pegmatite 1065
Quebec
Temiscaming 1179
Saskatchewan
Cluff Lake 1155
Rabbit Lake 1155
St. Lawrence River 2293
Cape Lookout Bight, North Carolina, USA 1571
Cape Verdes, Atlantic Ocean 2979
carbohydrates
in an anoxic fjord 129
pyrolysis products 405
carbonates
in achondrites 909
C isotopes 2565
Ca-Mn-Mg 1859
deep-sea sediments Sr 335
diagenesis 2925
dissolution 2651, 2963
fluid inclusions 1027
freshwater calcite 2347
magmatic 1
martian origin 917
in meteorites 2855
Mn 2679
O and C isotopes 2077, 2445
oceanic redox conditions 1361
organic acid adsorption 1667
carbonatites
isotope systematics 1
Pb-Pb isochron dating 209
carboxylic acids in oil migration 2599
Cariaco Trench 839, 1203
Caspian Sea, USSR 1711
cassiterite
trace elements 1497
Cd
in groundwater 2693
in metalliferous sediments 2369
in meteorites 1835
in volcanic emissions 39
Ce
in lunar glass 2379
in magma sources Japan 2037
in marine carbonates 1361
in seawater 1203, 1203, 1361
celestite
authigenic 335
cellulose O, H isotopes 2189
CH_3COO^- interstitial 2477
CH_4
in C-H-O system 505
fugacity coefficients 739
chalcophile elements
Ag 167
in hydrothermal particles 2525
in meteorites 425
Sb 167
Chambers, Arizona, USA 727
chemical fossils
methyl steranes 2733
Proterozoic 2525
chemical weathering
hornblende 2537
chert
Ar isotopes 1443
C and O isotopes 1473
Ge 2333
cheto montmorillonite
Chambers, Arizona 727
chevkinite REE 275
chloride complexes
high temperature 585
metals 1983
chlorite
diagenesis 1037
H and O isotopes 513
hydrothermal 2269
pore fluid reactions 2053
chlorophyll
biomarkers 2337
preservation in sediments 87
in sediments 2303
Chokai Zone, Japan 2037
chromans
relation to isoprenoid alkylbenzenes 2671
Cl
in alkali salt solutions 989
in brines 1037
in fluid inclusions 1007, 1443
in halite 1037
in hydrothermal solutions 2053
in natural waters 821
partitioning behavior 2091
thermochemistry 2393
in volcanic glass 2115
Clarke Award 941
clay
adsorption on clay surfaces 55, 2609
alteration 2053
deep-sea sediments 201
diagenetic reactions 1037
pore fluid reactions 2053
climate
Antarctic glaciation 2321
glacial/Holocene 1557
O, H isotopes 2189
clinopyroxene in mantle modules 319
closure temperatures for ^4He 1449
Cluff Lake, Saskatchewan, Canada 1155
^{248}Cm in meteorites 1245
Co
adsorption on calcite 2281
in diagenesis 1557
in lunar glass 2379
in meteorites 1835
partitioning olivine 603
CO in C-H-O system 505
CO_2
atmospheric in Antarctic ice 2321
in C-H-O system 505
in fluid inclusions 1057
fugacity coefficients 739
in hydrating fluids 1057
in hydrothermal solutions 2053
in magmatic-hydrothermal fluids 2091
shock emplacement of 295
in submarine glasses 2501
coal
diagenesis 637
precursor materials 405
coal period marker
angiosperms 1255
coccolithophorids in sediments 2303
collagen
C, N isotopes 2197
fossil bone 929
collagenase in bone 2425
colloids
estuarine 1123
Fe hydroxide 771
in groundwater 2555
Colorado, USA 1425
columbite
trace elements 1497
comets
Halley 889
complexants
heterogeneous 1505
complexation
silica 1521
complexes
metal chloride 1983
complexing
aqueous Zn 2281
compressibility
Na aluminosilicate melts 283
condensation
nebular 2841

conductance
limiting equivalent 63
Connemara, Ireland 2165, 2167
contamination
Oslo igneous rocks 1997
continental crust 789
Cook Islands, Pacific Ocean 2909
coordination of Fe^{3+}
silicate melts 2467
coprecipitation
Na, Sr in calcite 1859
corundum
dissolution 2609
REE 2573
cosmic dust 889
accretion rate 1383
IDPs (Interplanetary Dust Particles) 1087
cosmochemistry
He and Ne isotopes 1087
hibonite evidence 2827, 2841
of meteorites 1649
of nebular dust 2941
O fugacity 2707
Ti isotopes 309
coulometric analysis of fluid inclusions 485
covellite solubility 1815
Cr
in altered rock 1905
in chondrules 425
in lunar glass 2379
in mantle xenoliths 433
Cretaceous-Tertiary boundary 1737
critical point seawater 2121
crust
composition of lower crust 2235
continental evolution 793
Pb isotope systematics 1327
recycling 1351
sediment composition 785
crustal contamination
in carbonatite 209
in Oslo igneous rocks 1997
crustal growth 1341
cryptoperthite Ar loss 1097
crystal chemistry
of diopside 3017
ilmenite 1781
crystal defects
rutile 1545
crystallization
apatite kinetics 1883
crystallization differentiation
trace elements 27
Cs
in altered silicates 1905
in mantle-derived nodules 319
in meteorites 1835
Cu
in altered rock 1905
complexation by DOM 195
of complexes 1815
in diagenesis 1557
fulvic acid binding 185
in groundwater 2693
in metalliferous sediments 2369
in seawater 1765, 1849
in volcanic emissions 39
in water 185
Cumbria, UK 223
cumulates
mantle xenoliths 449
CuO
lignin oxidation 2717
cycling
Mn and Fe at redox boundary 1601

Dabob Bay, Washington, USA 87
Darcy's law 727
dating
chondrites 2487
K/Ar 2207
suevite 2639
U-series disequilibrium 669
Dead Sea, Jordan, Israel 1711
deep-sea sediments 2543
Sr 335
defects
rutile 1545
Demerara Plain, Atlantic Ocean 839
denitrification
groundwater 1869
Denmark
Stevns Klint 229
density
silicate melts 2467, 2815
Derwentwater Lake, UK 223
di-benzo-thiophenes
in petroleum source rocks 2879
diagenesis
in amino acids and fossil bones 2257
in an anoxic fjord 129
aqueous diffusion coefficients 63
arkose 2207
of aromatic hydrocarbons 375
As 2293
in bone 2415, 2425
C 2963
C, O isotopes 2679
chlorophyll 87
in coal 637
in collagen 2197
in Cu 1815, 1815
early 2477
in evaporites 1037
in fluid inclusions 1027
in fluids 2207
formation of C_1-C_2 hydrocarbons 1895
in hemipelagic sediments 345
in lacustrine sediments 1179
in marine sediments 1557, 1571
of Mn, S 751
Mn-carbonates 2679
organic carbon 1531
oxidation-reduction 2925
in pelagic sediments 2127
phosphorite 2565
in Pleistocene limestone 1019
in Red Sea sediments 177
in silica 1521
of triterpenoids 2543
diamond
in meteorites 1235, 1245
Ne content 19
dietary reconstruction
C, N isotopes 2197
differentiation
lunar 1795
diffusion
aqueous ions 63
Ar 2165, 2167
in feldspars 1097
from hydrous minerals 2457
As 2293
in chondrites 2487
in DSDP pore waters 2077
H 1007
He 1449
in iron meteorites 715
in mantle nodules 319
in marine sediments 2963
mechanisms 527
metasomatism 143
in meteorite iron 617
pore water reaction rates 2925
in suevite 2639
in talc, serpentine 415
diffusion coefficient of O in silicates 1585
diopside 3017
dissolution 3017
glass 2659
pseudomorphs 415
XPS 1641
diploptene in Antarctic sediments 217
dissolution
acid-base equilibria 1969
alpha recoil radionuclides 1459
bacteria 2727
of $CaCO_3$ 2963
of corundum 2609
CuS 1815
of CuS 1815
of feldspar 385
of halite and sylvite 989
mineral 2795, 3017
in Mn in particulates 2433
of quartz 1521
of sulfides 2369
of UO_2 863
dissolution kinetics 43, 2609, 2651
of diopside 3017
of feldspar 1467, 2795
of minerals 1969
of quartz 1521
of rutile 1545, 1545
in weathering 2785
distribution coefficients
granite minerals 1131
Mn and Mg in calcite 1859
NH_4-K in phlogopite 1275
olivine and orthopyroxene 539
in petrogenetic modeling 2379
time-dependent 567
dolomite
fluid inclusions 1027
organic acid adsorption 1667
DOMES, Pacific Ocean 1383
DSDP
Ge in chert 2333
Hole 316, Pacific Ocean 1361
Leg 38, Norwegian Sea 2077
Dubai, Saudia Arabia 491
Dy in seawater 1203

Earth 1341
East Pacific Rise 669
12-14°N and 21°N 2115
21°N 1711
eclogite
Nd and Sr isotopes 1285
electrical conductivity
clays 727
electrokinetics of clay membranes 727
electrolyte solution
ore fluid 585
electron microscopy
phyllosilicates 1593
electronegativity
silicate melts 395
elemental fluxes in hydrothermal systems 345
Elephant Moraine, Antarctica 1309

Elk Point Basin, Canada 1027
ellagic acid degradation rate 341
Endeavour Ridge, Pacific Ocean 659, 2525
England
  St. Austell 585
enthalpy
  Na_2SO_4(aq) 2393
  of sulfide formation 167
entropy
  configurational 2659
enzymatic preparation of bone 2425
eolian dust
  dissolution of Mn 2433
  input to surface ocean 2955
epidote pore fluid reactions 2053
equations of state
  aqueous species 2009
  H 1195
equilibria
  aqueous H_2S 2047
  aqueous mixed electrolytes 2393
  Cu-fulvic acid 185
  geothermal solutes 2749
  local mass transport 143
  mineral dissolution 43
  NaCl-KCl-H_2O 989
  thio-antimonous acids 3005
  vapor-liquid 739
equilibrium constants
  estimation of 1983
Er
  in seawater 1203
  xenotime 767
erosion rate determination
  ^{10}Be 2687
Errata 1949, 2183, 2549, 3023
estuaries
  Cu complexation 195
estuarine sediments 2993
Eu
  in lunar crust 1795
  in lunar glass 2379
  in seawater 1203
  in zhamanshinites 779
evaporites
  in fluid inclusions 485
  formation models 821
  geochemistry 1037
  non-marine 1047
  trace elements 2809
Explorer Ridge, Pacific Ocean 555
expulsion of hydrocarbons 701, 2879
exsolution in feldspar 1097

F
  in granite magmas 2507
  in submarine glasses 2501
  in volcanic glass 2115
Falling Spring Creek, Virginia, USA 2347
fatty acids
  adsorption 1667
  lacustrine 1667
  in marine sediments 839
Fe
  in carbonate dissolution 2651
  in cassiterite 1497
  in chondrules 425
  in deep-sea sediments 2925
  in diagenesis 1557
  in estuaries 1123
  in Fe(Ni) sulfides 1627
  in ferrihydrite 1627
  in fluid inclusions 1007
  in goethite 627
  in groundwater 2693
  in groundwater colloids 2555
  in lacustrine sediments 1179
  in lunar glass 2379
  in mantle xenoliths 433
  in metalliferous sediments 2369
  in Mn oxides 2727
  oxyhydroxide 1601
  in peridotite 2893
  riverine dissolved 1123
  in saponite 1627
  in sediments 2993
  in serpentine 1627
  in silicate melts 1827
  in suspended particles 1203
Fe hydroxides
  solubility 771
Fe partition
  olivine and metal 603
Fe-Mn nodules
  mineralogy and chemistry 2127
  Sr, Nd isotopes 2229
Fe^{2+} in sediment pore water 2925
Fe_2O_3 in glasses and melts 2467
feldspars
  Ar-loss 1097
  dissolution 385, 1467
  thermoluminescence 119
  weathering 2785
fellow travellers 2743
Fen carbonatite complex, Norway 209
Fengtien, Taiwan 593
fernene in Antarctic sediments 217
ferrihydrite in Orgueil 1627
Fiji/Lau
  Back Arc Basins 2501
fish
  Ir 1737
fish debris
  REE 177
fission tracks
  induced 1449
fjord organic matter 129
Fletcher Mine, Missouri, USA 1007
Florida, USA 1019
fluid inclusions
  analysis of 485, 585, 969
  in calcite 1027
  daughter minerals 1007
  in dolomite 1027
  in evaporites 1047
  geobarometry 2053
  geochronology 961
  geothermometry 1007, 2053
  in granulites 1057
  H and O 1155
  in halite 1037, 2809
  in limestone 1019
  in mantle nodules 319
  metastability 2549
  N_2 1275
  NaCl-$CaCl_2$-H_2O 2451
  NaCl-KCl-H_2O 2549
  noble gas contents 1443
  oceanic hydrothermal system 2451
  in pegmatites 1065
  in quartz 1027
  Raman microprobe 979
  salinity 1007, 2053
  synthetic 969, 989, 2451, 2549
fluid mixtures H_2O-CO_2 2549
fluid-rock interactions 2169
fluids
  C-O-H system 2549
  thrusting
    degassing 513
fractional crystallization 2235
  carbonatite 937, 939
  granite 2507
fractionation
  gas-solid (liquid) 1699
  H, O between minerals 513
  O isotopes 2445
  in peridotite 2893
  REE 767
  trace elements 27
  U-Th-Pb 1327
France
  Bresse Basin 2809
  Gironde Estuary 901
  Lherz (Pyrenees) 2893
  Paris Basin 2439
Franciscan Melange, California, USA 1361
free energy Fe-Ti-O system 2065
fulvic acid
  Cu binding 185
    in Suwannee River 195
fungi
  white-rot, brown-rot 2717

Ga
  in granite 2507
  in lherzolites 2867
  in meteorites 1835
  in natural waters 1879
  in seawater 2955
  in upper mantle 2867
Ga/Al ratio in waters 1879
Gabon, Franceville
  Oklo 1155
Galicia Margin, Atlantic Ocean 1361
gallic acid degradation rate 341
gas transport in silicates 655
gases
  ethanogenesis 1895
  in fluid inclusions 1155
  fugacity coefficients 739
  geothermal 739
  interstitial 2477
  in magma 2115, 2501
  natural 851
  non-ideal mixtures 505
Gd in seawater 1203
Ge in chert 2333
gehlenite
  Raman spectra 1961
Geochemical Society Awards 941
geochromatography
  carboxylic acids 2599

GEOCHRONOLOGY

  Ar
    in chert 1443
    in chondrites 2487
    trapped 1295
    in volcanic rocks 1425, 1435
  ^{39}Ar/^{40}Ar
    in feldspars 1097
    in meteorites 1113
  ash-flow tuffs 1425
  ^{14}C
    dating 2369
    in marine sediments 1557
  carbonatite 209

ferromanganese crusts 2229
fluid inclusions 961
fossil bone 2257
He from U and Th 1449
hornblende 2165, 2167
I-Xe of meteorites 1113, 2215
K-Ar hornblende 2165, 2167
K/Ar of feldspar 2207
^{81}Kr-Kr method of meteorites 1649
^{210}Pb of lake sediments 1179
Pb-Pb 209
Ra-Th disequilibria 937, 939
Rb-Sr
of alkalic rocks 2357
granites 2507
track annealing 1459

Georgina Basin, Northern Territory, Australia 259
geothermal brine 807, 813
geothermal heat 1131
geothermal solute equilibria 2749
geothermal systems
Salton Sea 1047
geothermal waters
As 475
geothermometry 1449
^{39}Ar/^{40}Ar in feldspars 1097
fluid inclusions 989, 1007, 1019
Na, K, Mg, Ca 2749
O isotopes 2445
Gibraltar, Mediterranean Sea 2767
Gironde Estuary, France 901
glass 3017
boro-alumino-silicate 2405
density 2467, 2815
melilite 1961
shock-produced 295, 2775
structure of 2659
surface phase 3017
XPS 1641
Glatt River, Glattfelden, Switzerland 2693
glauberite solubility 821
glycine in fossil collagen 929
goethite
fluid inclusions 1007
Goldschmidt Award 941
Gorda Ridge, N. E. Pacific Ocean 2269
Grand Canyon, Arizona, USA 2625
granite
fluid derived from 585
I-type 2507
granulites
fluid inclusions 1057
graphite
hydrothermal 1905
in mantle rocks 1781
Great Valley, California, USA 851
Greenland
Klokken intrusion 1097
Greenland Sea, Atlantic Ocean 1373
groundwater
chemistry of 2693
dissolution rates 2651
He isotopes 1305
^{15}N 1869
Guaymas Basin, Pacific Ocean 345, 1711
Gulf of Aden, Oman Sea, Arabian Sea 839
Gulf of Mexico 1737, 1849
Guyana 785
gypsum solubility 821

H
in fluid inclusions 1007, 1155
fugacity coefficients 739
interstitial 2477
molecular cycling 2477
in salt water 989
in sediments 2993
thermochemistry 2393
H^+ influence on adsorption kinetics 55
H_2 in C-H-O system 505
H isotopes
in carbonaceous chondrites 579, 581
in cellulose 2189
in DSDP pore waters 2077
feldspar dissolution 2795
in granite 513
in lacustrine sediments 223
in meteorites 2251
in nephrite 593
H and O in granite metamorphic rocks and waters 513
^{1}H
NMR 3017
H_2O
in C-H-O system 505
in fluid inclusions 1057
fugacity coefficients 739
in magmatic-hydrothermal fluids 2091
in mantle 555
in submarine glasses 2501
in volcanic glass 2115
H_2S
in aqueous solutions 2047
in brine 807
ionization 649
halite
diagenesis 1037
fluid inclusions 485, 1037
solubility 821, 2451
trace elements 2809
Halley 889
hardystonite
Raman spectra 1961
harzburgite
mantle-derived 319
hats
non-interchangeable 2743
He in meteorites 1649
^{4}He in minerals 1449
He isotopes
in IDPs 1087
in natural gas 851
in springs 1919
in steam well 1305
heat capacity
Na_2SO_4(aq) solutions 2393
hematite
fluid inclusions 1007
hemihydrate solubility 821
Hf in lunar glass 2379
Hf isotopes in crust and mantle 1341
Hg
marine biogeochemistry 1719
in metalliferous sediments 2369
in seawater 1719
hibonite
$CaAl_{12}O_{19}$ 1729
in carbonaceous chondrites 2841
in meteorites 2827
meteoritic 1479
REE 2573
Himalaya, Nepal
Manaslu 513

Ho
in lunar glass 2379
xenotime 767
Homer 2743
hop-17(21)-ebe in Antarctic sediments 217
hopanes
degraded 491
in Lias shales 1145
Proterozoic 2525
hopenes in Antarctic sediments 217
Horizon Guyot 2229
hornblende
Ar isotopes 1295
He diffusion 1449
K-Ar age 2165, 2167
REE 1131
weathering 2537
humic acid
riverine 1123
humic substances in chlorophyll 87
hydration 3017
glass 3017
hydrocarbons
perylenes 901
Proterozoic 1747, 2525
hydrology
subglacial flow 2321
hydrolysis
Al and Ga in seawater 2955
mineral 2795
quartz 43
U^{4+} 863
hydrothermal activity 2369
alteration of alkalic rocks 2357
aqueous diffusion 63
aqueous species 2009
boiling 739
brine 813
feldspar dissolution 385
fluid inclusions 1027
fluids in faults 2053
graphite 1905
Li isotopes 1711
modeling 143
noble gases in fluids 1443
oceanic 2451
ore fluids 585
organic degradation 341
particles 2525
plumes and clouds 345
Red Sea sediments 177
solute equilibria 2749
solutions
As 475 475
chloride complexes 1983
He isotopes 1305
models 821
Sb 3005
UO_2 solubility 863
submarine fluids 659
tourmaline 1905
vent deposits 2269
hydroxyapatite
in bone 2415
precipitation 1883
hydroxyl
glass dissolution 3017

I
in Allende inclusions 2215
in enstatite chondrites 101
I isotopes in meteorites 101, 1113

IDPs (interplanetary dust particles) 1087
igneous differentiation
granite 1131
mathematical modeling 2235
trace element partitioning 539
trace elements 27
illite diagenesis 1037
ilmenite
in mantle rocks 1781
thermodynamic properties 2065
immiscibility in carbonatite 937, 939
impact crater
shock effects 2639
impact glasses
Zhamanshin Crater 779
Imperial Valley, California, USA 1047
implantation by solar wind in IDPs 1087
In in meteorites 1835
incongruent dissolution
hornblende 2537
Indonesia
Kalimantan
Mahakam Delta 375, 901, 1189, 2599
infiltration
O isotopes 2169
interplanetary dust 1409
thin section 889
interstellar grains in meteorites 1235, 1245
iodine-xenon dating of meteorites 679
ion chromatography of inclusion fluids 485
ion exchange
on clays 55
in dissolution 2609
feldspar dissolution 2795
hydrothermal 2749
kinetics 55
NH_4-K in phlogopite 1275
seawater 627
ion microprobe
trace element analysis 2573
ionic strength
Cu equilibria 185
ions
transport properties 2009
Ir
in boundary clay 229
in marine organisms 1737
in organic matter 229
Irati oil shale biomarkers 1955
Ireland
Connemara 2165, 2167
irghizites 779
island arc
crustal recycling 1351
Japan 2037
isomerization of triterpenes 2543
isoprenoid alkanes
Proterozoic 1747
isoprenoid alkylbenzenes
in sediments and oils 2671
isoprenoid hydrocarbons 701

ISOTOPES

^{26}Al in eucrites 1691
Ar
in amphibole 2457
in biotite 2457
in chert 1443
in feldspars 1097
in springs 1919
trapped in silicates 1295
in volcanic rocks 1425, 1435
Ar chronology 1435
Ar diffusion 2165, 2167
^{40}Ar diffusion 1445
Be in volcanic rocks 237
^{10}Be
in eucrites 1691
oceanic sediments 1351
stony meteorites 499
C
in achondrites 917, 925
in amino acids 2257
in Antarctic carbonate 2321
in bone 2415, 2425
in carbonatites 1
in chert 1473
in collagen 929, 2197, 2257
in deep-sea sediments 1169
in diagenesis 2679
in ethanogenesis 1895
in fluid inclusions 1027
in fossil bones 2257, 2257
in granite 513
in humates 2257
in interstitial water 2077
in meteoritic carbonates 2855
in natural gas 851
in phosphorite 2565
in siderite 2445
^{13}C in deep-sea sediments 2963
^{14}C in marine sediments 1557
Ca in hibonite 2573
H
in carbonaceous chondrites 579
in ethanogenesis 1895
in feldspar dissolution 2795
in granite 513
in interstitial water 2077
in kerogen 2251
in meteorites 581, 2251
in nephrite 593
salinity 223
He
in hydrothermal vent fluids 1929
in IDPs 1087
in natural gas 851
in springs 1919
in steam well 1305
^{4}He diffusion 1449
Hf in crust and mantle 1341
I in meteorites 101
^{129}I in meteorites 1113, 2215
Li
in hydrothermal solution 1711
in lakes 1711
in oceanic crust 1711
in seawater 1711
Lu in crust and mantle 1341
Mg
in hibonite 2573
in meteorites 1409, 2827
N
in achondrites 917
in amino acids 2257
in bone 2415, 2425
in collagen 929, 2197, 2257
in fossil bones 2257
in humates 2257
in natural gas 851
^{15}N in groundwater 1869
Nd
in carbonatites 1
in crust and mantle 1341
in eclogite 1285
in fluid inclusions 961
in granite 513, 2235
in igneous rocks 1997
in mantle nodules 319
in ocean island lavas 2979
in ocean islands 2909
in seawater 1373, 2229, 2767
and Sr of mantle xenoliths 449
in ultramafic xenoliths 461
Nd-Sm granites 2507
Ne in IDPs 1087
in noble gases 1649
O
in achondrites 917, 925
in alkalic rocks 2357, 2357
in Antarctic carbonate 2321
in carbonaceous chondrites 579
in carbonatites 1
in chert 1473
in chondrules 309
in diagenesis 2679
diffusion 1585
in feldspar 2207
in fluid inclusions 1027
fractionation clays 727
in granite 513
in interstitial water 2077
in meteorites 581
in meteoritic carbonates 2855
in nephrite 593
in phosphorite 2565
salinity 223
in siderite 2445
in ureilites 1313
O exchange 2169
O, H in cellulose 2189
Os in Mn nodules 1197
^{187}Os/^{186}Os in sediments 1383
^{231}Pa scavenging 669
Pb
in carbonatites 1, 209
in crust and mantle 1327
in fluid inclusions 961
in igneous rocks 1997
in ocean island lavas 2979
in ocean islands 2909
^{238}Pu alpha-recoil 1459
^{239}Pu alpha-recoil 1459
^{226}Ra alpha-recoil 1459
Ra carbonatite 937, 939
Rb
in alkalic rocks 2357
in crust and mantle 1341
Rb-Sr granites 2507
^{222}Rn alpha-recoil 1459
S
in boundary clay 229
in fluid inclusions 1027
Sm
in crust and mantle 1341
in seawater 1373
Sr
in alkalic rocks 2357, 2357
in carbonatites 1
in continental crust 789
in crust and mantle 1341
in eclogite 1285
in fluid inclusions 961
in granite 513, 2235
in igneous rocks 1997
in mantle nodules 319
in ocean island lavas 2979
in ocean islands 2909, 2979
in Precambrian oceans 793
in seawater 789, 2229
in ultramafic xenoliths 461

Th
in Antarctic carbonate 2321
carbonatite 937, 939
in seawater 627
^{232}Th diffusion 1449
^{234}Th alpha-recoil 1459
Ti
in carbonaceous chondrites 2941
in chondrules 309
in hibonite 2573
in meteorites 2827
U in Antarctic carbonate 2321
^{234}U
alpha-recoil 1459
scavenging 669
^{235}U
alpha-recoil 1459
^{238}U
alpha-recoil 1459
diffusion 1449
scavenging 669
uptake kinetics 567
^{129}Xe meteorites 1113

isotopic anomalies in meteorites 1409
isotopic variations
between source and granite 513
Li isotopes 1711
mass dependent fractionation 1409
in meteorites 1221, 1235, 1245
^{238}Pu, ^{222}Rn 1459
in terrestrial reservoirs 1327
in upper mantle 461
Israel, Jordan
Dead Sea 1711
Italy
Mount Etna 39
Roccamonfina 1435

Japan
Chokai Zone 2037
Mount Mihara 1305
Nasu Zone 2037
Oshima Island 1305
Juan de Fuca Ridge, Pacific Ocean 1929
Jumbo Mine, Kansas, USA 1007

K
in altered silicates 1905
in brines 1037
in chloride solutions 989
in chondrules 1699
in fluid inclusions 1443
in halite 1037
in halite 2809
in hydrothermal solutions 2053
in Japanese magma sources 2037
in lunar glass 2379
in mantle xenoliths 433
in mantle-derived nodules 319
in phlogopite 1275
in silicate melts 1827
in thermal waters 2749
in volcanic emissions 39
in volcanic glass 2115
K-Ar ages
suevite 2639
K-feldspar
Ar isotopes 1295
overgrowths 2207
pore fluid reactions 2053
K_2O in submarine glasses 2501

kaolinite
adsorption of Al 55
dissolution 2609
KCl in fluid inclusions 2549
Kelamayi Oilfield, Xinjiang Province, People's Republic of China 491
kerogen
biomarkers 2337
C and O isotopes 1473
in meteorites 1221, 1235
Monterey shale 359
Proterozoic 1747
kerolite dissolution 365
Kimmeridge Clay Formation, North Sea 701, 2879
kinetics
of Al adsorption 55
of apatite precipitation 1883
of Ar loss 1097, 2457
of calcite precipitation 1859, 2347
of He diffusion 1449
of lignin oxidation 2717
in maturity studies 2439
of metal sorption 567
of microbial metabolism 2993
mineral 143
O isotopes 2169
of organic compound degradation 341
of oxidation-reduction 1203
of pyrite oxidation 1077
of reaction rates 2651
solute transport 63
Th adsorption-desorption 113
Klokken Intrusion, Greenland 1097
Kr in meteorites 1649, 1937
kutnahorite
formation in sediments 751
in Mn ore 2679
precipitation 1859
Kwagunt Formation, Chuar Group
Walcott Member 2625

La
in hibonite 2573
in lunar glass 2379
in mantle xenoliths 433
in seawater 1203
in volcanic glass 2115
labradorite dissolution 385
Lake Bret, Vaud, Switzerland 1601
Lake Hitchcock, Connecticut, USA 1383
Lake Tanganyika, Africa 1711
lakes
acid 1179
closed basin 1265
hypersaline 265
Li isotopic composition 1711
saline 1265
langbeinite
He diffusion 1449
laser microprobe 979
geochronology 2487
I study 679
laumontite
pore fluid reactions 2053
lavas
carbonatite 937, 939
gases 2501
Leptothrix discophora
Mn oxides 2073
Lherz, Pyrenees, France 2893
lherzolite
Ga content 2867
mantle-derived 319

Li
in granite magmas 2507
in ocean 1711
Li isotopes
in hydrothermal solutions 1711
in lakes 1711
in oceanic crust 1711
in seawater 1711
Li mapping alpha-track images 2311
Lias shales
hydrocarbons 1145
ligands
heterogeneous 1505
lignins
in an anoxic fjord 129
diagenetic modifications 405
oxidation 2717
pyrolysis products 405
lignite
woody tissues 405
Limpopo Belt, South Africa 1057
Line Islands, Pacific Ocean 1361
linen
O, H isotopes 2189
lipids
in Antarctic sediments 217
in marine sediments 839
sedimentary diagenesis 87
in shale 1955
liquid-solid equilibria
albite
high-pressure 283
models 821
NaCl-KCl-H_2O 2549
sepiolite 365
trace element partitioning 539
lithophile elements
in chondrules 1699
crustal recycling 1351
lunar 1795
in meteorites 425
lithosphere
crustal recycling 1351
eclogite xenolith 1285
melting 2893
trace elements 2177
Lower Saxony Basin, West Germany 1145
Lu
in hibonite 2573
in lunar glass 2379
in seawater 1203
xenotime 767
Lu isotopes in crust and mantle 1341

macerals
characterization 637
Mackenzie Shelf, Canada 1027
Madeira Abyssal Plain, North Atlantic Ocean 2925
maghemite in Mn ore 2679
magma
alkalic carbonatite 937, 939
assimilation and fractional crystallization 2235
density 2467
lunar glass 2379
lunar mare basalts 2379
lunar petrogenesis 2379
modeling 1827
ocean island 1, 2979
origin
Japan 2037
Oslo region 1997
volatiles 2115

magmatic-hydrothermal ore deposits
role of Cl 2091
magnesian calcite precipitation 1859
magnesite
diagenesis 1037
organic acid adsorption 1667
precipitation 1859
magnetite in Mn ore 2679
Mahakam Delta, Indonesia 375, 901, 1189, 2599
maize
O, H isotopes 2189
Manaslu, Nepal 513
manganoan calcite precipitation 1859
MANOP Site C, North Tropical Pacific 2303
mantle
composition 461
diamonds 19
eclogite xenolith 1285
evolution 1341
H_2 and CH_4 2077
isotopic variation 449
Japan 2037
oceanic magma sources 2979
Oslo region 1997
oxidation state 1781
Pb isotope systematics 1327
trace elements 319, 2177
mantle plume heterogeneity 2909
marine chemistry
Hg 1719
marine hot springs 345
marine Ir 1737
marine productivity in Antarctic sediments 217
marine sediments
As 2293
organic 259
MAS-NMR (magic angle spinning/nuclear magnetic resonance) 3017
maskelynite in Shergotty 2147
mass transport modeling 143
maturity
parameters 2439
sediments 1189
maturity indicators
terpanes 1955
McArthur Basin, Australia 1747
McMurdo Sound, Antarctica 217
Mediterranean Sea 2107
Gibraltar 2767
melilite
Raman spectra 1961
melt structure
silicate 395
melts
density 2467
Na aluminosilicate 283
structure of 2659
metal complexes
hydrothermal 1983
metal sulfides
solubility products 649
metal-olivine
Fe, Ni, Co partition 603
metal-rich layers
marine sediments 1557
metamorphism
N gas 851
metapelites
granulites 1057
metasomatism
B and C 1905
geothermal systems 2749
in mantle 433, 449, 555, 2037, 2909
in peridotite 2893
talc, serpentine 415

METEORITES

achondrites 1313, 1691, 1835
^{14}C 1309
eucrites 1691
parent bodies 909
acid residues in carbonaceous chondrites 579
Allende type B inclusions 2707
alpha-track images 2311
alteration 2215
Antarctic weathering 2311
aqueous alteration 1627
atmosphere, Mars 1937
aubrite 1835
B abundance 2311
breccia 1835
Ca-Al inclusions 1479, 1585
CAI rims 1389
carbonaceous chondrites 425, 579, 581, 1221, 1235, 1245, 1313, 1389, 1615, 1627, 2573, 2827, 2855
hibonite 2841
chondrites 309, 425, 1113, 1679, 2487, 2549, 2707
condensation sequences 1729
cosmic dust 889
noble gas carriers 1221, 1235, 1245
Ti isotopes 2941
chondrule precursors 1699
chondrule rims 1389, 2549
chondrules 309, 425
in Allende 1699
chronology 1649
^{129}I 101
Shergotty 2147
clasts 1615
Cm chondrites 1593
coarse-grained rims 2549
condensation in solar nebular 1699
contamination by B 2311
cooling rates 715, 1389, 1679
cosmic-ray effects 1245
cosmic-ray production rates of noble gases 1649
cosmochemistry
^{129}I 101
cosmogenic noble gases 1649
CV chondrites 2549
dating 679
diffusion in niningerite 877
enstatite chondrites 101, 877
eucrites 1691
exposure age 1309, 1649, 1691
hydrothermal process in chondrites 119
^{129}I-^{129}Xe relations 101
inclusions
Ca-Al-rich 2215
iron 617, 715
isotopic anomalies 1409
isotopic composition
C 1221, 1235
N 1221
Ne 1221, 1235, 1245
Xe 1221, 1235, 1245
isotopic heterogeneity 679
in carbonaceous chondrite matrix 2941
I 101
kamacite 617
matrix
CM chondrites 1593
metamorphism 1679
mineralogy 1627
niningerite zoning 877
nucleosynthesis
r-process 1245
s-process 1245
olivine rims 1389
ordinary chondrites 2573, 2855
thermoluminescence 119
organic compounds 579, 581
organic matter 2251
origin 2707
of chondrules and CAIs 2941
of chondrules 309
oxygen fugacity 1479
parent bodies 1113, 1615, 1679, 2215
achondrites 909
chemical processing 581
petrography 617
phase equilibria of calcium-aluminates 1729
plessite 617
refractory elements in hibonites 2841
shergottite age 295, 925, 1309
shock effects 295, 1679
SNC 295, 917, 2147, 2775
Martian origin 1937
solar nebula 1479
stony-irons 617
taenite 617
TEM 1627
terrestrial age 1309
thermal history 877
thermoluminescence 1679
in chondrites 119
trace elements in hibonite 2841
ureilites 1313
weathering 1679
achondrites 917
by aerosols 2311
Antartic 2311
Widmanstatten pattern 715
xenoliths in Murchison C2 1615

METEORITES, NAMED

A 76005 1691
A 78040 1691
A 79017 1691
Al Rais 499
Alais 499
ALH A78113 1835
ALHA 77005 2147
Allan Hills A77214 119
Allende 309, 679, 1389, 1409, 1479, 1699, 2215, 2573, 2707, 2941
Atlanta 499
Belgica 7904 1593
Bereba 1691
Binda 1691
Bishopville 499
Bouvante 1691
Bristol 715
Bruderheim 499
Bustee 499
Cachari 1691

Chassigny 1937
Chervony Kut 1691
Cold Bokkeveld 2941
Cumberland Falls 1835
Dhajala 119, 2573
E 79004 1691
E 79005 1691
EETA79001 295, 909, 917, 925, 2147, 2775
Efremovka 2941
Ellemeet 499
Emmaville 1691
Grosnaja 1389
Haraiya 1691
Ibitira 1691
Indarch 499
Ivuna 2941
Jajh deh Kot Lalu 499
Juvinas 499, 1691
Kaidun 309, 2941
Kakangari 309
Lakangoon 1691
Macibini 1691
Millbillillie 1691
Moama 1691
Moore Co. 1691
Murchison 309, 1221, 1245, 1479, 1593, 1615, 2251, 2573, 2827, 2841, 2941
Murray 1221, 1235, 1245
Nagaira 1691
Nakhla 499, 917, 1937
Nobleborough 499
Nuevo Laredo 1691
Orgueil 499, 581, 1627, 2941
Ornans 425
Padvarninkai 499, 1691
Palo Blanco Cr 1691
Pasamonte 1691
Peace River 2487
Pena Blavica Spring 499
Peramiko 1691
Petersburg 1691
Pomozdino 1691
Qingzhen 877
Renazzo 581
Santa Cruz 499
Semarkona 119
Serra de Mage 1691
Sharps 119
Shergotty 1937, 2147
Sioux Co. 1691
St. Sauveur 499
Stannern 1691
Tazewell 715
Toluca 715
Tonk 2941
Tonzac 1691
Vetluga 1691
Y 74159 1691
Y 75015 1691
Yamato 793321 1593

meteoritic flux
Os 1197
methane
in fluid inclusions 1065
in natural gas 851
methyl-alkanes
Proterozoic 1747
methyl-anthracenes in coals 375
methyl-chrysenes in coals 375
methyl-phenanthrenes in coals 375
methyl-pyrenes in coals 375
methyl-steranes biomarkers 2733
methylated aromatic compounds in sedimentary rocks 375
methylperylenes in sediments 901
Mexico
Gulf of 1737
Hidalgo
Molango Mining District 2679
Jalisco
Sierra La Primavera 275
Mg
in brines 1037
in calcite 1859
in carbonate dissolution 2651
in chondrules 1699
in fluid inclusions 1007
in halite 1037
in groundwater 2693
in halite 2809
in hibonite 2573
in hydrothermal fluids 659, 2053
in lunar glass 2379
in peridotite 2893
in saponite 1627
in serpentine 1627
in talc, serpentine 415
in thermal waters 2749
in volcanic emissions 39
Mg isotopes
in hibonite 2827
in meteorites 1409
miargyrite
calorimetry 167
microbial oxidation Mn^{2+} 2073
microcline Ar loss 1097
microthermometry
fluid inclusions 979
Mid-Atlantic Ridge 1711
Mid-Cambrian sedimentation 259
mid-ocean ridge hydrothermal crusts 2269
migration
of aromatic hydrocarbons 2879
of hydrocarbons 701
primary 2879
mirabilite thermochemistry 2393
Mn
in calcite 1859
in carbonate 2679
in cassiterite 1497
in chondrules 425
in deep-sea sediments 2925
in diagenesis 1557
in groundwater 2693
in hydrothermal plumes 345
in lunar glass 2379
in metalliferous sediments 2369
oxidation state 2073
in oxides 627
oxyhydroxide 1601
in pelagic sediments 669
in seawater and rainwater 2433
in seawater 1765
in sediments 2993
in suspended particles 1203
Mn^{2+} in sediment pore water 2925
Mn nodules
mineralogy and chemistry 2127
Os 1197, 1383
Mn oxide reduction 2679
Mn reduction
of oxides 2727
by sulfide 751
Mn-calcite in Mn ore 2679
Mn^{2+}-oxidizing protein 2073
modeling
aqueous complexation 1505
box model 1765
chemical transport 63
Cu binding to DOM 195
dissolution 1467
dissolution rates 2651
equilibrium speciation and mass transfer 2347
geochemical 43, 821
of ion adsorption 627
lunar basalts 2379
lunar glass 2379
magma genesis 2379
microbial metabolism 2993
O isotopes 2169
Pb isotopes 1327
trace elements 27, 2379
Molango Mining District, Hidalgo, Mexico 2679
molar volumes
Fe in silicate melts 2815
in silicate melts 2467
monazite
end-members 767
REE 275
Montana, USA 785
Monterey shale kerogen 359
montmorillonite adsorption of Al 55

MOON

core composition 603
Eu studies 1795
mare basalts 2379
volcanic glass 2379

MORB
^{10}Be 237
water content 555
Mössbauer spectroscopy
silicate melts 2815
Mount Etna, Italy 39
Mount Mihara, Japan 1305
muscovite
Ar isotopes 1295
H and O isotopes 513
He diffusion 1449

N
in amino acids 1571
cycling in sediments 1571
in meteorites
isotopic composition 1221, 1235, 1245
in natural gas 851
shock emplacement in basalt 2775
N isotopes
in achondrites 917
in bone 2415
in collagen 929
in groundwater 1869
N_2
shock emplacement of 295
n-alkanes in marine sediments 839
Na
in aluminosilicate melts 283
in brines 1037
in calcite 1859
in chloride solutions 989
in chondrules 425
in fluid inclusions 1007
in halite 1037

in granite 2507
in hydrothermal solutions 2053
in lunar glass 2379
in mantle xenoliths 433
in natural waters 821
in peridotite 2893
in silicate glass 2405
in silicate melts and glasses 527
in thermal waters 2749
thermochemistry 2393
in volcanic emissions 39
Na disilicate glass 2659
Na_2O in melts 2467
Na_2SO_4 thermochemistry 2393
NaCl
acoustic velocity 283
in fluid inclusions 2549
in H_2O 2121
in NaCl-$CaCl_2$-H_2O fluids 2451
thermochemistry 2393
NaOH thermochemistry 2393
naphthalenes in petroleum source rocks 2879
Nares Abyssal Plain, North Atlantic Ocean 2925
Nasu Zone, Japan 2037
Nature statue 2743
Nb
in cassiterite 1497
in mantle xenoliths 433
Nd
in Atlantic deep water 2767
in granite 2507
in lunar glass 2379
in mantle-derived nodules 319
monazite 767
rhabdophane 767
in seawater 1203, 2767
Nd isotopes
in carbonatite 1
in crust and mantle 1341
eclogite 1285
in ferromanganese crust 2229
in fluid inclusions 961
in granite 513, 2235
in igneous rocks 1997
in mantle nodules 319
in ocean island lavas 2909, 2979
in seawater 1373, 2767
in ultramafic xenoliths 449, 461
Ne
in diamonds 19
in meteorites 1649, 1937
Ne isotopes
in IDPs 1087
in meteorites 1221, 1235, 1245
nebular condensation 2841
Nekker Ridge 2229
neohop-13(18)-ene in Antarctic sediments 217
nepheline
He diffusion 1449
XPS 1641
nephrite
O and H isotopes 593
New Albany Shale biomarkers 2337
New Mexico, Permian Basin 1037
New Zealand
Otago
Taieri River 1123
Water of Leith 1123
NH_3 in groundwater 2693
NH_4
in phlogopite 1275
in sediment pore water 2925
Ni
adsorbed on ferrihydrite 1627
in diagenesis 1557
in kamacite-taenite 715
in mantle xenoliths 433
in peridotite 2893
in talc, serpentine 415
Ni partition
olivine and metal 603
nitrate in groundwater 2693
NMR spectroscopy 3017
boroaluminosilicate glass 2405
silicates 527
NO_3^- in sediment pore water 2925
noble gases
in Allende 679
Ar
in feldspars 1097
in hydrothermal fluids 1443
in chondrites 1649
deep-sea sediments 1087
in diamonds 19
fractionation in springs 1919
geothermal 1919
in geothermal vent fluids 1929
in meteorites 1113, 1221, 1235, 1245
phase separation 1929
Rn loss from silicates 655
shock emplacement in basalt 295, 2775
in SNC meteorites 1937
North Sea
Brae oil field 701, 2879
Kimmeridge Clay Formation 701, 2879
Norway
Fen carbonatite complex 209
Oslo Region 1997
Norwegian Sea, Atlantic Ocean 1373
nucleosynthesis
hibonite evidence 2827
nebular dust 2941

O
in fluid inclusions 1155
in groundwater 2693
in hibonite ($CaAl_{12}O_{19}$ and $CaAl_4)_7$ 1729
in interstitial water 1169
at lacustrine redox boundary 1601
in salt water 989
in silicate melts 1827
thermochemistry 2393
O_2 in C-H-O system 505
O diffusion
nepheline and melilite 1585
O fugacity
meteorite inclusions 2707
O isotopes
in achondrites 917, 925
in Antarctic aragonite 2321
in Antarctic ice 2321
in carbonaceous chondrites 579, 581
in carbonatite 1
in cellulose 2189
in chert 1473
in chondrules 309
in DSDP pore waters 2077
in feldspar 2207
in fluid inclusions 1027
fluid-rock exchange 2169
fractionation in clays 727
in granite 513
in lacustrine sediments 223
in meteoritic carbonates 2855
in Mn carbonates 2679
in nephrite 593
in siderite 2445
in ureilites 1313
ocean floor 2229
basalt alteration 2077
deep-sea sediments 201
East Pacific Rise 669
hydrothermal systems 2451
ridge crest 659
sediments 345
sulphides 813
ocean islands lava geochemistry 2979
oceanographic distribution
As, Sb, V 2871
oceans
Hg biogeochemistry 1719
Hg distributions 1719
oil
expulsion 701, 2879
isoprenoid alkylbenzenes 2671
migration processes 2599
Oklo, Franceville, Gabon 1155
Oldoinyo Lengai volcano, Tanzania 937, 939
oleananes in sediments 2543
olivine
in chondrules 425
Fe, Ni, Co partition 603
in mantle nodules 319
in meteorites 1389
partition coefficients 539
Oneida Lake, New York, USA 2727
ore
Mississippi Valley-type Pb-Zn 1007
Sb 3005
ore deposits
sedimentary Mn-carbonate 2679
ore fluid composition 585
organic acids
degradation rate 341
quartz dissolution 1521
organic C
oxidation 2925
in sediments 2303
organic geochemistry
marine sediments 217
organic ligands in weathering 2785
organic matter
in meteorites 2251
Proterozoic 2625
solubilization 2599
organometallic complexes in ore transport 1007
orthopyroxene in mantle modules 319
Os isotopes
in continental crust 1383
in Mn nodules 1197, 1383
in pelagic clay 1383
Oshima Island, Japan 1305
Oslo Region, Norway 1997
osmosis 727
osmotic coefficient Na_2SO_4(aq) 2393
oxidation
anoxic sediments 751
deep-sea sediments 201
of kerogen 359
organic carbon 1531
pyrite 1077

redox potential 1557
state of Fe in SnO_2 1497
of sulfides 2369
in the solar nebula 2707
oxidation state
mantle 1781
Mn and Fe oxyhydroxides 1601
oxidation-reduction of Ce 1203
oxides
ilmenite and ulvospinel 2065
Mn 2727
Mn and Fe 1601
oxyanions
As, Sb, V 2871
oysters
Ir 1737

P
in diagenesis 1557
in granite 2507
in hydroxyapatite 1883
P-V-T relations
H 1195
P_2O_5
in submarine glasses 2501
Pa in pelagic sediments 669
Pacific Ocean 1087, 2229
Austral Islands 2909
Cook Islands 2909
DOMES 1383
DSDP Hole 316 1361
East Pacific Rise
20°S 669
21°N 1711
Endeavour Ridge 659, 2525
Explorer Ridge 555
Gorda Ridge 2269
Guaymas Basin 1711
Juan de Fuca Ridge 1929
Line Islands 1361
North 1373, 2127
North Tropical 2127
MANOP Site C 2303
Pacific-Nazca Ridge 555, 555
Shatsky Rise 1361
PACROFI First Annual Meeting 959
paleoclimatology
O, H isotopes 2189
paleoproductivity in sediments 2303
paleothermometry
phosphorite 2565
Paris Basin, France 2439
partial melting
granite generation 513
lunar petrogenesis 2379
mantle 2893
particulates
dissolution of Mn 2433
partition coefficients 1667
Cl between granite melt and fluids 2091
Fe, Ni and Co 603
for halite 2809
igneous differentiation 27
in mantle nodules 319
NH_4-K in phlogopite 1275
Ni, Mg 415
olivine and orthopyroxene 539
in petrogenetic modeling 2379
REE 275
Pb
in altered rock 1905
in mantle-derived nodules 319
in metalliferous sediments 2369
in seawater 1765
in volcanic emissions 39, 245
^{210}Pb
in hydrothermal fluids 659
in lacustrine sediments 1179
Pb isotopes
in carbonatite 1, 209
in fluid inclusions 961
in igneous rocks 1997
in ocean island lavas 2979
in ocean islands 2909
in terrestrial reservoirs 1327
Pb-Zn ore deposit 961
PbS in brine 813
peat woody tissues 405
pegmatites
fluid inclusions 1065
Tanco 1065
pelagic clay Os 1383
People's Republic of China
Xinjiang Province
Kelamayi Oilfield 491
Pergamon 2743
Peridot Mesa, San Carlos, Arizona, USA 319
Permian Basin, New Mexico, USA 1037
perovskite REE 2573
perthite
Ar loss 1097
petroleum
alkanes 491
biomarkers 2733
expulsion 701, 2879
in fluid inclusions 1007
generation 701
Proterozoic 1747
trimethylnaphthalenes 1255
petroporphyrins
sedimentary precursors 87
pH
acidification 1179
in brines 813
in carbonate dissolution 2651
Cu equilibria 185
deep-sea sediments 201
in dissolution 2609
feldspar dissolution 2795
in groundwater 2693
hydration dependence upon 3017
mineral dissolution 43
oceanic redox conditions 1361
during sulfide oxidation 751
phase diagrams
Fe-Ni 617
$NaCl-CaCl_2-H_2O$ 2451
$NaCl-KCl-H_2O$ 989, 2549
phase equilibria
$CaAl_4O_7$ and $CaAl_{12}O_{19}$ (hibonite) 1729
in hydrothermal fluids 2053
phase transformation
serpentine 1593
phenanthrenes in petroleum source rocks 2879
phenols
vanillyl, syringyl 2717
phlogopite
ammonium-bearing, synthetic 1275
Japanese arc 2037
in mantle 555
synthetic IM 1275
phosphate-rich strata diagenesis 259
phosphates
O isotopes 2565
oceanic redox conditions 1361
precipitation 1883
phthalic acid degradation rate 341
phyllosilicates
in meteorites 1593
in Orgueil 1627
phytanylbenzenes
methylated 2671
Pitzer equations 2393
plankton
in an anoxic fjord 129
Ir 1737
metal uptake 2107
plate tectonics
natural gas 851
and sedimentary composition 785
platinum group elements in sediments 1383
^{210}Po volcanic emissions 39
pollution in lakes 1179
polyhalite diagenesis 1037
polysulfides
Cu complexes of 1815
ionization 649
Porcupine Abyssal Plain, N. E. Atlantic Ocean 1557
porous media mass transport 143
porphyrin kerogen breakdown 2337
prehnite pore fluid reactions 2053
pristane 701
maturity studies 2439
prist-1-ene
maturity studies 2439
pristane in sediments 1189
Proterozoic
biomarkers 2625
hydrocarbons 1747
pseudokutnahorite precipitation 1859
Pu in Allende inclusions 2215
^{244}Pu in meteorites 1245
Puget Sound, Washington, USA 1765
pyrargyrite calorimetry 167
pyrite
in marine sediments 259
oxidation 1077
S/organic C ratios 259
in sediment 2293
pyrolite
Ga content 2867
pyrolysis
kerogen 2337
pyrolysis-gas chromatography-mass spectrometry 405
pyrolysis-mass spectrometry 405
pyroxene
in chondrules 425
partition coefficients 539
REE 275
in Shergotty 2147

quartz
dissolution kinetics 43
fluid inclusions 969
quartz feldspars
O isotopes 513
quasi-stationary state
moving boundary problem 143

Ra
in carbonatite 937, 939
in hydrothermal fluids 659
relation to Rn 1459
Ra isotopes
carbonatite 937, 939

Rabbit Lake, Saskatchewan, Canada 1155
radioactive disequilibrium Ra-Th 937, 939
radioactivity
in atmosphere 39
in fluid inclusions 1155
natural U-series 669
release by water 1459
radiocarbon dating bone 2257
radiochemistry
hydrothermal fluids 659
radiolysis in fluid inclusions 1155
rainwater
Mn in particulates 2433
Raman spectroscopy
akermanite 1961
fluid inclusions 979
gehlenite 1961
hardystonite 1961
melilite 1961
Rb
in altered silicates 1905
in chondrules 1699
in granite 2507
magma sources
Japan 2037
in mantle-derived nodules 319
in meteorites 1835
in volcanic glass 2115
Rb isotopes
in crust and mantle 1341
in granite 2235
reaction front retardation 143
reaction rates
dissolution 1467
feldspar dissolution 2795
low temperature 43
Mn, Ce, REE 1203
NH_4-K exchange in phlogopite 1275
organic carbon 1531
rutile weathering 1545
in weathering 2785
recycling isotopes 1341
Red Sea
Atlantis II Deep
Shaban 177
redox boundary in lakes 1601
redox chemistry Cu 1849
redox equilibria
melt density 2815
silicate melts 395, 2467
redox history
Allende type BI inclusions 2707
REE
in anoxic waters 1203
in boundary clay 229
in carbonatite 1
in chondrules 1699, 1699
crustal recycling 1351
in deep-sea sediments 201
in fish debris 177
in granite minerals 1131
in granite 2235, 2507
in hibonite 2841
in lunar crust 1795
in lunar glass 2379
in mantle materials 2177
in mantle xenoliths 433, 449
in marine carbonates 1361
in ocean island lavas 2979
oceanic redox conditions 1361
partition coefficients 275
in peridotite 2893
phosphate adsorption 229
in Precambrian sedimentary rocks 793
in refractory inclusions 2573
in seawater 1373
in sedimentary rocks 785
in Shergotty 2147
in ultramafic xenoliths 461
in zhamanshinites 779
REE phosphates 767
reedmergnerite glass structure 2405
refractory elements
lunar volcanic glass 2379
in meteorites 425
regolith
lateritic 2555
lunar 1795
residence time
hydrothermal fluids 659
retrograde orthoamphibole isograd 1057
rhabdophane end-members 767
rhodochrosite
in Mn ore 2679
precipitation 1859
rhyolite REE 275
Ries Crater, West Germany 2639
river water Ga, Al 1879
^{222}Rn
escape from minerals 1459
in hydrothermal fluids 659
release by water 1459
in silicate minerals 655
Roccamonfina, Italy 1435
rodingite O and H isotopes 593
Roman Volcanic Province chronology 1435
rutile dissolution kinetics 1545

S

adsorbed on ferrihydrite 1627
in alkylated molecules 1895
Cu complexes of 1815
diagenic pyrite 259
at lacustrine redox boundary 1601
in lacustrine sediments 1179
oxidation by Mn 751
in submarine glasses 2501
thermochemistry 2393
thiosulfate and sulfide 2727
in volcanic glass 2115
S isotopes
in boundary clay 229
fluid inclusions 1027
Saanich Inlet, British Columbia, Canada 129
Salado Formation 1037
salinity
of fluid inclusions 989
NaCl-KCl-H_2O 2549
Salton Sea, California, USA 1047
Salton Sea, California, USA 1047
San Juan Mountains, Colorado, USA 1425
sanidine He diffusion 1449
São Mateus do Sul, Parana, Brazil 1955
saponite
diagenesis 1037
in Orgueil 1627
Saudia Arabia
Dubai 491
Sb
in altered rock 1905
in meteorites 1835
oceanographic distribution 2871
in sulfide solutions 3005
Sc
in fish debris 177
in lunar glass 2379
in mantle xenoliths 433
in peridotite 2893
sorption kinetics 567
scavenging 2369, 2955
Science statue 2743
Se in meteorites 1835
seamounts
East Pacific Rise 2115
seawater
Al and Ga concentrations 2955
alteration of basalt 1711
aqueous H_2S 2047
calcite precipitation 1859
chemical models 821
evolution 485, 1037
fatty acids 1667
Ga, Al 1879
Ir 1737
kinetics of Th adsorption 113
lipids 839
Mn in particulates 2433
Mn residence time 345
Precambrian geochemistry 793
redox conditions 1361
redox evolution 201
REE 1203
salinity 1373
Sr isotopes 789
trace elements 1849
trace metals 1765
sediment subduction 237
sedimentary rocks
fluid inclusions 1019
indicators of Precambrian crustal evolution 793
isoprenoid alkylbenzenes 2671
Precambrian geochemistry 793
REE 785
sedimentation
hydrothermal particles 2525
turbidites 2925

SEDIMENTS

alkenones 2303
anoxic 1895
anoxic marine 1571
carbonate
Sr 335
deep-sea 201
early diagenesis 1169
hydrothermal pelagic 669
kerogen 359
lacustrine 223, 1663, 2993
Salton Sea 1047
marine 2477
marine carbonate 1361
marine organic matter 259
in metal enrichments 1557
metalliferous 2369
methyl-perylenes 901
oceanic 1351
organic C 1531
organic matter 1747
organic matter diagenesis 87
pelagic
major/minor element composition 2127
Proterozoic 2625
recent marine 839

Red Sea floor 177
trap fluxes 2525
trimethylnaphthalenes 1255

SEM fluid inclusion analysis 969
sepiolite dissolution 365
sericite pore fluid reactions 2053
serpentine
in meteorites 1593
in Orgueil 1627
shales
hydrocarbons 1145
Shatsky Rise, Pacific Ocean 1361
shock
induced thermoluminescence 1679
suevite 2639
shock heating chondrites 2487
shock metamorphism
effect of cavities 2775
shock-wave data
H gas 1195
Shpol'skii spectroscopy
perylenes 901
shrimp
Ir 1737
Shroud of Turin
O, H isotopes 2189
Si
in altered silicates 1905
aqueous speciation 43
in chondrules 425
in deep-sea sediments 2925
in glasses 2659
in granite 2507
in groundwater colloids 2555
in Mediterranean brines 2107
in melts 2659
in silicate melts and glasses 527
in silicate melts 1827
^{29}Si NMR 3017
siderophile elements in meteorites 425
Sierra La Primavera, Jalisco, Mexico 275
Sierra Nevada, California, USA 1131
Sierrita porphyry Cu deposit, Arizona, USA 2235
silica
Ge 2333
silicate melts
density 2467, 2815
dynamics 527
in mantle nodules 319
modeling 1827
Na aluminosilicate 283
structure of 283, 2659
trace elements 27
viscosity 395
viscous flow mechanisms 527
silicate surface
chemistry 1641
silicates
gas diffusion 655
in groundwater 2693
He diffusion 1449
loss of Rn from 655
X-ray photoelectron spectroscopy 1641
XPS 1641
silicon carbide in meteorites 1221, 1235, 1245
SiO_2
differentiation trends 2235
in melts 2467
size distribution
interstellar diamond 1235
interstellar SiC 1235
Skidaway Island, Georgia, USA 751
Sm
in lunar glass 2379
in mantle-derived nodules 319
monazite 767
in seawater 1203
in volcanic glass 2115
Sm isotopes
in crust and mantle 1341
in seawater 1373
smectite
hydrothermal 2269
membrane behavior of 727
pore fluid reactions 2053
Sn
in cassiterite 1497
in granite 2507
sorption kinetics 567
substitution by trace elements 1497
SO_2 in volcanic emissions 39
soil
activation energy 1969
Cu complexation in Armadale 195
^{222}Rn 1459
soil age ^{10}Be 2687
solar flare in IDPs 1087
solar nebula
isotopic heterogeneity 309, 2941
primitive history 581
temperature 2841
solid solutions
$(FeMn)(NbTa)O_6$ in SnO_2 1497
Fe_2WO_4 in SnO_2 1497
FeOOH in SnO_2 1497
NaCl-KCl 989
solubility
As compounds 475
calcite 2347
Cl in water-saturated granite 2091
Cu-S minerals 1815, 1815
Fe hydroxide 771
gases 807
of halite and sylvite in H_2O 989
halite(NaCl) 2451
modeling natural waters 821
Na_2SO_4 in electrolyte mixtures 2393
NaCl-KCl-H_2O 2549
quartz in water 1521
of silicates 2693
stibnite 3005
sulfides in brine 813
solutions
aqueous H_2S 2047, 3005
C-H-O system 505
H and O isotopes 2077
high temperature equilibria 1983
NaCl-KCl-H_2O to 800°C 989
Permian brines 1037
source rocks
Petroleum Clay Formation 2879
South Africa
Limpopo Belt 1057
South America
Guyana 785
speciation
As, Sb 2871
Cu in seawater 1849
sphalerite fluid inclusions 1007
sphene REE 1131
spinel in meteorites 1221, 1235, 1245
Spor Mountain, Utah, USA 2091
sputtering
isotope variations 1409
Sr
in calcite 1859
in carbonate sediments 335
in chondrules 1699
in granite 2507
magma sources in Japan 2037
in mantle xenoliths 433
in mantle-derived nodules 319
Sr isotopes
in carbonatite 1
continental crust 789
in crust and mantle 1341
eclogite 1285
in ferromanganese crust 2229
fluid inclusions 961
in granite 513, 2235
igneous rocks 1997
in mantle nodules 319
in ocean island lavas 2909, 2979
Precambrian oceans 793
ultramafic xenoliths 461
in xenoliths 449
Sr and Nd in granite and metamorphic rocks 513
St. Austell, England 585
St. Lawrence, Canada 2293
stanols diagenesis 1663
statistical analysis of tektite composition 2085
statues of Science and Nature 2743
steranes
biomarkers 2733
degraded 491
in Lias shales 1145
Proterozoic 1747, 2525
stereochemistry
of methyl steranes 2733
steranes, hopanes 1145
steroidal hydrocarbons biomarkers 2733
sterols
in marine sediments 839
4-methylsterols 1663
Stevns Klint, Denmark 229
sulfate reduction 2477
sulfate-reducing bacteria 259
sulfates
in achondrites 909
in brines 1037
in fluid inclusions
in halite 1037
in natural waters 821
in Orgueil 581
reduction 1179, 2477
in oceanic crust 2077
sulfides
calorimetry 167
lacustrine sediments 1179
sulfosalts
Ag, Sb 167
sulfur aromatics in petroleum source rocks 2879
surface analysis
SAM and XPS 385
surface chemistry
silicates 1641
weathered hornblene 2537
surface reactions
ion-exchange 767
suspended particles
Mn geochemistry 345

Switzerland
Glattfelden
Glatt River 2693
Vaud
Lake Bret 1601
syenite
Ar loss 1097
systems
C-H-O 505, 2549
CaO-FeO-Fe_2O_3-SiO_2 2815
Fe-Ti-O 2065
H_2O-CH_4-NaCl-CO_2 1065
KCl-H_2O 989
MgO-SiO_2-Fe-Ni-Co-O 603
Na_2O-FeO-Fe_2O_3-SiO_2 395, 2467
NaCl-$CaCl_2$-H_2O 2451
NaCl-H_2O 989, 2121
NaCl-KCl 989
NaCl-KCl-H_2O 989, 2549
SiO_2-$KAlO_2$-$CaAl_2$-Si_2O_8-FeO 1827

Ta
in cassiterite 1497
in lunar glass 2379
in mantle xenoliths 433
Taieri River, Otago, New Zealand 1123
Taiwan
Fengtien 593
Tanco pegmatite, Manitoba, Canada 1065
tannic acid degradation rate 341
tantalite trace elements 1497
Tanzania
eclogite xenolith 1285
Oldoinyo Lengai volcano 937, 939
tar sand 491
taraxer-14-ene in sediments 2543
Tasmania, Australia 2507
Te in meteorites 1835
tektites
bediasite composition 2085
blue glass 779
and microtektites 1409
Temiscaming, Quebec, Canada 1179
Th
in carbonatite 937, 939
disequilibrium 1459
in fish debris 177
in granite minerals 1131
in groundwater 2555
in lunar crust 1795
in mantle xenoliths 433
in mantle-derived nodules 319
in pelagic sediments 669
in seawater 627
sorption kinetics 567
^{234}Th adsorption-desorption kinetics 113
Th isotopes
carbonatite 937, 939
dating
subglacial deposits 2321
in terrestrial reservoirs 1327
thenardite
solubility 821
thermochemistry 2393
thermal alteration
hydrocarbons 491
thermal degradation rates
sterols 1663
thermal history
of chondrites 2487
pristane 2439
thermal maturation indicators
sediments 901
thermochemistry
boroaluminosilicate glass 2405
$CaAl_4O$ and $CaAl_{12}O_{19}$ (hibonite) 1729
Fe+Ti+O system 2065
magma 27
silicate melts 395
thermochronology
hydrous minerals 2457
thermodynamic correlations
aqueous species 2009
thermodynamic predictions
aqueous species 2009
thermodynamics
aqueous H_2S 2047
C-H-O system 505
Ce in seawater 1203
chloride complexing 1983
complex formation 3005
electrolyte mixtures 2393
Fe, Ni and Co partitioning 603
of glass 2659
of melts 2659
mineral and aqueous species 43
Na_2SO_4(aq) 2393
natural water models 821
nonequilibrium 727
silicate melts 527
thermoluminescence in meteorites 1679
Ti
in hibonite 2573
in lunar glass 2379
in mantle materials 2177
in mantle xenoliths 433
in peridotite 2893
Ti^{3+} in hibonite 1479
Ti isotopes
in carbonaceous chondrites 2941
in chondrules 309
in hibonite 2827
Tl
in meteorites 1835
volcanic emissions 245
Tm in lunar glass 2379
topaz in alkali-feldspar granites 2507
topaz rhyolites
role of Cl 2091
Spor Mountain, Utah 2091
tourmaline
fluid inclusions 1065
H and O isotopes 513
Town Cove, Orleans, Massachusetts, USA 2477
trace elements 223, 2369
Al 2107
aqueous complexation 1505
in brine 265
in carbonatite 1
in cassiterite 1497
in chondritic inclusions 1835
in deep-sea sediments 201
in geothermal waters 475
in groundwater 2693
in halite 2809
Hg 1719
igneous differentiation 27
K, Rb, Sr and Ba in alkalic rocks 2357
in lunar glass 2379
in mantle materials 2177
in mantle nodules 319
in mantle xenoliths 433, 449
in mantle 2037
in Mn nodules 1197
in MORB 237
in natural waters 1879
in ocean island lavas 2979
oceanic 1351
oceanic redox conditions 1361
partitioning 539
in pelagic sediments and nodules 2127
in refractory inclusions 2573
seawater scavenging 627
in seawater 1849, 2955
in sediments 1383, 1557
Th in seawater 113
in upper mantle 461
uptake kinetics 567
V, As, Sb 2871
Trans-Atlantic Geotraverse (TAG)
Hydrothermal field
Mid-Atlantic Ridge at 26°N 2369
Trans-Pecos, Texas, USA 2357
transition elements
aqueous complexation 1505
deep-sea sediments 201, 345
in hydrothermal particles 2525
igneous differentiation 27
in lunar glass 2379
in seawater 1849
transport modeling
aqueous diffusion 63
transport properties
aqueous species 2009
travertine precipitation 2347
Treibs Award 941
tricyclic terpanes in shale 1955
trimethylnaphthalenes in crude oils and sediments 1255
triterpanes
Proterozoic 1747, 2525
triterpenes in Antarctic sediments 217
two-phase curve
NaCl-H_2O 2121

U
in carbonatite 937, 939
in diagenesis 1557
disequilibrium 1459
in fish debris 177
in granite minerals 1131
in groundwater 2555
in lunar glass 2379
in mantle xenoliths 433
in mantle-derived nodules 319
in meteorites 1835
in pelagic sediments 669
in Shergotty phosphates 2147
U^{4+}
hydrolysis 863
oxide solubility 863
U isotopes
dating subglacial deposits 2321
in terrestrial reservoirs 1327
UK
Cumbria (Lake District) 223
Derwentwater Lake 223
ulvospinel
thermodynamic properties 2065
upper mantle Ga content 2867
uraninite water solubility 863
urs-12-ene in sediments 2543
USA
Arizona
Chambers 727
Grand Canyon 2625
San Carlos, Peridot Mesa 319
Sierrita porphyry Cu 2235
California
Bishop Tuff 275

Franciscan Melange 1361
Great Valley 851
Guaymas Basin 345
Imperial Valley 1047
Salton Sea 1047
San Joaquin Basin, Baaken Shale 2337
Sierra Nevada 1131
Colorado 1425
San Juan Mountains 1425
Connecticut
Lake Hitchcock 1383
Florida 1019
Georgia
Skidaway Island 751
Kansas
Jumbo mine 1007
Massachusetts
Buzzards Bay 1531, 2477
Orleans, Town Cove 2477
Missouri
Fletcher Mine 1007
Montana 785
New Mexico
Delaware Basin, Eddy County, WIPP 1037
New York
Oneida Lake 2727
North Carolina
Cape Lookout Bight 1571
North Dakota
Williston Basin 2337
Oklahoma
Anadarko Basin 491
South Dakota
Black Hills 1905
Texas
Trans-Pecos 2357
Utah
Bingham 1007
Spor Mountain 2091
Wasatch fault 2053
Virginia
Falling Spring Creek 2347
Washington
coast 2303
Dabob Bay 87
Puget Sound 1765
Wyoming
Yellowstone National Park 1919
USSR
Caspian Sea 1711
Zhananshin crater, Khazakhstan 779

V
in altered rock 1905
box model 2871
in diagenesis 1557
in kerogen 2337
in lunar glass 2379
in mantle xenoliths 433
in metalliferous sediments 2369
oceanographic distribution 2871
in peridotite 2893
vanadylporphryrin biomarkers 2337
vanillic acid degradation rate 341
vapor phase of composition 2091
vapor-liquid NaCl-H_2O 2121
vaporization
alkaline elements 1699
vein quartz in Ar isotopes 1443
Venezuela
Cariaco Trench
Caribbean Sea 1203
vents
hydrothermal submarine 659
vermiculite
adsorption of Al 55
Vestfold Hills, Antarctica 2321
Victoria, Australia 433, 449
viscosity
silicate melts 395
volatile elements
deep-seated H_2 and CH_4 2077
in magma 2501
in meteorites 425
in volcanic emissions 39
in volcanic glass 2115
volatiles
in fluid inclusions 979
planetary 925
volcanic emissions
in atmosphere 39
Pb, Bi and Tl 245
volcanic glass
Apollo 15 2379
gases 2501
lunar 2379

W
in altered rock 1905
in cassiterite 1497
Wasatch fault, Utah, USA 2053
Washington Coast, USA 2303
waste disposal
nuclear 1037

WATER
diagenesis 1019, 2693
geochemical models 821
geothermal 475, 1047, 2169
He isotopes 1305
uraninite solubility 863
hydrothermal 1919
interstitial 223, 265, 1019, 1179, 1557, 2169
As 2293
DSDP Leg 38 2077
equilibria 2925
lipids 839
marine sediments 1169
organic C 1531
Rn release by 1459
Sr 335, 335
trace metals 1765
isotopic composition in carbonaceous chondrites 581
lacustrine 1265, 1601
magmatic 513
in mantle 555
marine 627, 2107
marine fatty acids 1667
metamorphic 513
meteoric 513
REE 767
river 771
salinity 1373
steam chemistry 2347

Water of Leith, Otago, New Zealand 1123
water-rock interaction
feldspar dissolution 385
weathering
in achondrites 909
in Antarctic meteorites 2311
of basalt 2269
chemical 1265
of diopside 3017
dissolution 2609
feldspar dissolution 2795
martian origin 917
mineral dissolution 1969
modeling 143
of rutile 1545
of silica 1521
West Germany
Lower Saxony Basin 1145
Ries Crater 2639
whitlockite in Shergotty 2147
Williston Basin, North Dakota, USA 2337
WIPP, Eddy County, Delaware Basin, New Mexico, USA 1037
wood
birch 2717
fossil 405
lignitic 405
Woodford shale biomarkers 2337

X-ray photoelectron spectroscopy (XPS) silicates 1641
Xe
in Allende inclusions 2215
in Allende 679
in enstatite chondrites 101
in meteorites 1649, 1937
isotopic composition 1221, 1235, 1245
Xe isotopes in meteorites 1113
xenoliths
in granite 1131
mantle lherzolites 433, 449
in mantle nodules 319
trace elements 2177
ultramafic 461
xenotime end-members 767

Y
in mantle xenoliths 433
xenotime 767
Yb
in lunar glass 2379
in mantle xenoliths 433
in seawater 1203
Yellowstone National Park, Wyoming, USA 1919

Zaire 19
zeolites
Sr isotopes in analcime and natrolite 2357
Zhamanshin Crater, Khazakhstan, USSR 779
zhamanshinites
blue 779
Si-rich 779
zinnwaldite in alkali-feldspar granites 2507
zircon REE 1131
Zn
adsorption on calcite 2281
in altered rock 1905
in diagenesis 1557
in groundwater 2693
in metalliferous sediments 2369
in meteorites 1835
in seawater 1765
sorption kinetics 567
volcanic emissions 39
ZnS in brine 813
Zr
magma sources Japan 2037
in mantle materials 2177
Zr-Ti-Sc-Y-Ca-oxide 2573
Zr/Hf in fish debris 177

AUTHOR INDEX

(AR = Author's Reply; BR = Book Review; CC = Critical Comment;
E = Erratum; L = Letter)

Adam J. 1389
Adami L. H. 2445
Adams L. F. 2073
Aggrey K. E. 2115, 2501
Aharon P. 2321
Akai J. 1593
Albrecht P. 1955, 2599
Alexander R. 1255
Aller R. C. 751
Altebäumer F.-J. 1145
Altmann R. S. 1505
Amari S. 1087
Amrhein C. 2785
Anders E. 1221, 1235, 1245
Andersen T. 209
Anderson G. M. 807, 813
Andersson P. 229(L), 1949(E)
Angelin M. L. 375
Angle M. P. 1265
Anthony E. Y. 2235
Aquino Neto F. R. 1955
Arnold G. W. 2795
Aronson J. L. 2207
Aulstead K. L. 1027
Aylmer D. 1691

de Baar H. J. W. 1203, 2107
Baker P. A. 335
Balistrieri L. S. 567
Ballantyne J. M. 475
Bancroft G. M. 767
Banta G. T. 2477
Barakat A. O. 359
Barker C. E. 1019
Barnes H. L. 649
Barrett T. J. 807, 813
Batiza R. 2115
Baudat R. 1601
Becker R. H. 579(CC)
Beckett J. R. 1479
Bellocq J. 375, 901
Belzile N. 2293
Bennett P. C. 1521, 3023(E)
Beny J.-M. 1155
Bernatowicz T. J. 1113
Biggs W. R. 2337(L)
Bischoff J. L. 2121
Black L. P. 2507
Blanchette R. A. 2717
Blasch S. R. 1007
Blattner P. 2169(L)
Bloomer S. H. 335
Boatner L. A. 767
Bodinier J. L. 2893
Bodnar R. J. 969, 989, 2451, 2549(E)
Bogard D. D. 2639, 3025(BR)
Boily M. 1835
Boles J. S. 341
Boon J. J. 405
Boothe P. N. 1737(L)
Boreham C. J. 1747
Bos A. 1275
Bottrell S. H. 585(L)
Boussuge C. 839
Bradley J. P. 889
Brandriss M. E. 2659
Brassell S. 799(BR)
Brassell S. C. 2625
Brault M. 839
Brearley M. 2467, 2815
Brendel K. 2257
Brey G. 603
Brown G. E. Jr. 1641
Brown L. 2687
Bruhn R. L. 2053
Bruland K. W. 939(AR), 2955
Bryndzia L. T. 167
Buchs A. 1663
Buckley D. E. 2925
Buffle J. 1505, 1601
Burdige D. J. 1571
Burley B. J. 798(BR)
Buseck P. R. 1627

Cabaniss S. E. 185, 195
Caffee M. W. 2215
Calvert S. E. 1197
Campbell A. C. 345
Capon R. J. 2733(L)
Carignan R. 1179
Carmichael I. S. E. 283
Carothers W. W. 2445
Carpenter R. 87
Carr M. J. 1545
Carroll-Webb S. A. 2609
Casey W. H. 1545, 2795
Chang S. 2251
Changkakoti A. 961
Chappell B. W. 1, 1131
Chave K. E. 1265
Chen-Feng You 2687
Chester R. 2433
Chesworth W. 247(BR), 590(BR), 2552(BR)
Chicarelli M. I. 1955
Chihming Wang Lee 593
Chivas A. R. 1
Christensen H. 1155
Church S. E. 951(BR)
Clayton R. N. 925, 1313(L), 1615
Cliff R. A. 2979
Clifford P. M. 2552(BR)
Closs L. G. 797(BR)
Cocherie A. 177
Colson R. O. 539
Connolly C. 1585
Corbató C. E. 2457
Coveney R. M. Jr. 1007
Craig H. 851
Cranston R. E. 2925
Crecelius E. A. 1765
Crerar D. A. 341
Cronan C. S. 55
Crozaz G. 2147
Cumming G. L. 961
Curl H. C. Jr. 1765
Curry W. B. 2963
Dahl D. A. 2357
Dahl J. 229(L), 1949(E)
Darling W. G. 223(L)
Davies G. R. 2979
Davis A. M. 1615, 2573
De Sury R. 375
De Vitre R. R. 1601
DeMaster D. J. 798(BR)
DeNiro M. J. 2189, 2197, 2415, 2425
DePaolo D. J. 1325
Delaney J. S. 1835
Delano J. W. 2379
Demir I. 727
Devol A. H. 2717
Di Girolamo P. 1435
Dickinson J. E. Jr. 2467
Dingwell D. B. 395, 2467, 2815
Disko U. 1145
Donahue D. J. 1309(L)
Donnelly T. H. 259
Dostal J. 2893
Doyle C. D. 1827
Draus R. J. 2573
Dreier F. 1663
Druffel E. R. M. 1531
Druzik J. R. 2189
Dubessy J. 1155
Due A. 1189
Duhamel R. C. 2257
Duit W. 1275
Duke E. F. 1905
Dulski P. 1497
Dupuy C. 2893
Dymond J. 2525

Edmond J. M. 1711
Edmunds W. M. 223(L)
Eglinton G. 2625
Ehlers K. 877
El Goresy A. 877, 1389
Elderfield H. 1203
Elias E. M. 2165(CC)
Ellis J. 2555
Emerson S. R. 1169
Erslev E. A. 793(AR)
Esat T. M. 1409
Esser B. K. 1383
Eugster O. 1649
Evans E. 2625
Ewald M. 375

Fahey A. J. 2841
Falkner K. K. 1197
Farnan I. 3017(L)
Farrow C. M. 2165(CC)
Feely R. A. 1765
Fei Y. 505, 1195, 2549(E)
Fetzer J. C. 2337(L)
Fisher D. E. 2185(BR)
Fisk M. R. 2269
Fitzgerald W. F. 1719
Fleischer R. L. 1459
Fogel M. L. 929

Foland K. A. 2457
Force E. R. 2679
Fox L. E. 771
France-Lanord C. 513
Freeman K. H. 944
Fun-Dow Tsay 1479
Furlong E. T. 87
Futa K. 2229

Gaber L. J. 2457
Galbreath K. C. 1905
Garrigues P. 375, 901
Gascoyne M. 589(BR)
Gaudette H. E. 265
Geiger C. A. 1729
Geiselman T. 1765
Geisinger K. L. 2405
Gerlach D. C. 2979
German C. R. 1203
Ghiorse W. C. 2073
Gibbs A. K. 793(AR)
Gieskes J. M. 345
Giggenbach W. F. 2749
Gill G. A. 1719
Gill J. B. 939(AR)
Gillham R. W. 1077
Girard J.-P. 2207
Gittins J. 937(CC)
Goldstein J. I. 617, 715
Gooding J. L. 909
Goodrich C. A. 590(BR)
Goodwin A. M. 2551(BR)
Goodwin S. 2993
Goossens H. 1189, 2439
Grady M. M. 917, 1221, 2855
Graham R. A. 1545
Gray J. 961
Green W. J. 1265
Griffin W. L. 433, 449
Grissom G. 341
Grossman L. 1479, 1615, 1729, 1835, 2573
Guimon R. K. 119
Guise P. 1097
Gülaçar F. O. 1663

Haines S. M. 1327
Halbout J. 581(AR)
Hale C. J. 589(BR)
Halicz L. 2333(L)
Hall D. L. 989, 2549(E)
Halley R. B. 1019
Halliday A. N. 1097
Hamilton S. E. 129
Hamilton-Taylor J. 223(L)
Haq M. 1679
Hare P. E. 929
Harris D. W. 385
Harrison T. M. 1295
Harsh J. B. 2281
Hasan F. A. 1679, 1835
Haskin L. A. 1795
Hassett J. P. 1521, 3023(E)
ten Haven H. L. 2543(L)
Hawke D. J. 627
Haynes F. M. 969
Hedges J. I. 129, 2717
Hein J. R. 2229
Heizler M. T. 1295
Helgeson H. C. 63, 2009
Helz G. R. 1815
Henderson P. 950(BR)
Herman J. S. 2347
Hershey J. P. 2047
Herzog G. F. 499, 1691
Hewins R. H. 2707
Hickel B. 1155
Higgins M. D. 2311
Higgs N. C. 1557
Hines M. E. 265
Hinton R. W. 2311, 2573
Hobbie J. E. 2477
Hochella M. F. Jr. 385, 1641
Hodgson N. 2979
Hoede D. 2871
Hoering T. C. 946
Hohenberg C. M. 101, 2215
Holland H. D. 485
Hollister L. S. 1057
Holloway J. R. 2091
Honda M. 1113
Honeyman B. D. 567
Horodyski R. J. 2625
Horz F. 2639
Howard K. J. 2269
Howarth R. W. 2477
Hsueh-Wen Yeh 593
Hu X. 201
Hua X. 1389
Hudson B. 101
Hughes S. S. 2379
Hunter K. A. 627, 1123, 1319(BR)
Hutcheon I. D. 1615
Hutchison R. 1319(BR)
Hydes D. J. 1557, 2107

Ikramuddin M. 2737(BR)
Inskeep W. P. 1883
Ireland T. R. 2827, 2841
Irving A. J. 461

Jacobs J. A. 1952(BR)
Jacobs L. A. 2693
Jacobsen S. B. 1341, 1373
Jaffé R. 2599
Jagoutz E. 319, 1285
Jannasch H. W. 567
Jansen J. B. H. 1275
Javoy M. 581(AR)
Jenden P. D. 851
Jiang Zhusheng 491
Jonasson R. G. 767, 1320(BR)
Ju-Chin Chen 2687
Jull A. J. T. 1309(L)

Kadko D. 659
Kagi R. I. 1255
Kaplan I. R. 851
Kay R. W. 1351
Kay S. M. 1351
Keil R. 2693
Kelley S. 2487
Kennedy B. M. 101, 1919, 1929
Kerrich R. 1951(BR)
Kerridge J. F. 2251
Key T. C. 341
Kiene R. P. 1895
King T. V. V. 1742(BR)
Kirkpatrick R. J. 2405
Kirschbaum C. 679
Kissin S. A. 3026(BR)
Kittrick J. A. 2281
Klein J. 1691
Kleppa O. J. 167, 1729
Knauss K. G. 43
Kock-van Dalen A. C. 2671
Koeberl C. 779
Kolodny Y. 2333(L), 2565
Korotev R. L. 1795
Kosztolanyi C. 1155
Kozul J. M. 2707
Kress V. C. 283
Krishnaswami S. 655
Krouse H. R. 1027
Krstic D. 961
Krumhansl J. L. 1037
Krupp R. E. 3005
Kruse T. H. 499
Kurat G. 799(BR)
Kuslys M. 2693

Lambert D. D. 2357
Lambert G. 39
Land L. S. 797(BR)
Landreau A. 1869
de Lange F. 2439
de Lange G. J. 2107
Langmuir C. H. 237(L)
Lanphere M. A. 1425
Lapouyade R. 901
Lassey K. R. 2169(L)
Lattimer J. M. 1729
Laul J. C. 1905
Lawrence J. R. 2077
Lazar B. 485
Le Cloarec M.-F. 39
Le Fort P. 513
Le Maitre R. W. 2343(BR)
Leake B. E. 2165(CC)
Lee C. 1531
Lee Kwee Choo 627
Lee T. 2687
de Leeuw J. W. 637, 1189, 2439, 2671
Leonard M. W. 1123
Lewis C. A. 491
Lewis R. S. 1221
Leythaeuser D. 701, 1145, 2879
Lichtner P. C. 143
Lippolt H. J. 1449
Lipschutz M. E. 1835
Liu S.-B. 527
Liu Y.-G. 1361
Live D. 1479
Locke W. W. III 2537
Lofgren G. E. 119
Lonsdale P. F. 345
Lorah M. M. 2347
Love K. M. 2085
Lovley D. R. 2993
Lowson R. T. 2555
Lugowski J. 807
Lui-Heung Chan 1711
Lundberg L. L. 2147
Lupton J. E. 345
Luth R. W. 1781
Luz B. 2565
Lyons W. B. 265

Mackenzie A. S. 1145
Mackenzie D. E. 2507
Malek D. J. 2357
Malow G. 1497
Marino B. D. 2189
Mariotti A. 1869
Martens C. S. 1571
Massey N. W. D. 1951(BR)
Matson D. W. 1961
Mayeda T. K. 925, 1313(L), 1615
Maynard J. B. 2679
McConville P. 2487

McCorkle D. C. 1169
McCulloch M. T. 1
McKay D. B. 2867
McKay G. A. 539, 2147
McKibben M. A. 1047
McLennan S. M. 785(CC), 797(BR)
McNichol A. P. 1531
Melcer M. E. 1521, 3023(E)
Metz S. 2369
Miah M. R. U. 1361
Michael P. J. 275, 555, 1952(BR)
Michelson A. R. 2477
Middelburg J. J. 2871
Middleton R. 1691
Middleton T. A. 2311
Millero F. J. 2047
Millward G. E. 113
Misawa K. 1699
Mitchell R. H. 2867
Moats M. A. 1781
Moffett J. W. 1849
Mogk D. W. 2537
Mohr P. 3025(BR)
Møller N. 821
Möller P. 1497
Moniot R. K. 499
Montgomery C. W. 793(AR)
Moore J. N. 475
Moore R. M. 113
Moore W. 659
Morawska L. 1953(BR)
Moretto R. 2809
Moritz R. P. 1743(BR)
Morse J. W. 1667
Morse S. A. 949(BR)
Morton R. D. 961
Mucci A. 1859
Muehlenbachs K. 1585
Muehlhausen L. A. 2303
Muenow D. W. 2115, 2501
Murphy M. E. 950(BR)
Murray J. W. 567, 1742(BR)
Murthy V. R. 461
Myers C. R. 2727
Mysen B. O. 247(BR), 1729

Nakamura N. 1699
Nakamura Y. 1305(L), 2183(E), 2909
Navrotsky A. 2405
Nealson K. H. 2727
Nehru C. E. 1835
Nelsen T. A. 2369
Nelson D. R. 1
Nesbitt H. W. 1467
Neumann E.-R. 1997
Nicholson R. V. 1077
Nielsen R. L. 27
Niemeyer S. 309, 2941
Nip M. 637
Nordstrom D. K. 2185(BR)
Norman D. I. 959
Norry M. 2979
Notsu K. 1305(L), 2183(E)
Novelli P. C. 2477

O'Day P. A. 793(AR)
O'Keefe J. A. 2737(BR)
O'Neill H. St. C. 603, 2065
O'Reilly S. Y. 433, 449
Oddone M. 1435
Oelkers E. H. 63
Oestrike R. 2405
Okita P. M. 2679
Okubo S. 1047
Olsen E. J. 1615
Onstott T. C. 2167(AR)
Oremland R. S. 1895
Orians K. J. 2955
Ott U. 1937
Oudin E. 177
Oudin J. L. 375, 2599
Ozima M. 19, 1087

Pabalan R. T. 2393
Pačes T. 951(BR)
Pagel M. 1155
Pal D. K. 499
Palme H. 1389
Palmer M. R. 1197, 1951(BR)
Papanastassiou D. A. 1325
Papike J. J. 1905
Parks G. A. 863
Parlanti E. 901
Parry W. T. 2053
Parsons I. 1097
Pasteris J. D. 979
Patterson C. 245(E)
Patterson H. H. 55
Paulson A. J. 1765
Peck J. A. 3017(L)
Pennisi M. 39
Pepin R. O. 295
Perret D. 1601
Peterman Z. E. 2229
Philp R. P. 491
Piepgras D. J. 1373
Pillinger C. T. 917, 1221, 2855
Pines A. 527
Piper D. Z. 2127
Pitzer K. S. 2393
Plese T. 2047
Podosek F. A. 101, 1113
Pohl D. C. 863
Ponader H. B. 385
Poreda R. J. 851
Poty B. 1155
Powell T. G. 1747
Pownceby M. I. 2065
Prahl F. G. 2303
Presley B. J. 1737(L)
Price N. B. 669
Pringle-Goodell L. 2167(AR)
Prinz M. 1835

Radicati di Brozolo F. 1435
Radke M. 701, 2879
Reardon E. J. 1077
Reed M. H. 739
Reuter K. B. 617
Rex D. C. 1097
Reynolds J. G. 2337(L)
Reynolds J. H. 1919
Riedel E. 1497
Robert F. 581(AR), 1473
Robinson N. 2625
Roden M. F. 461
Rose A. W. 1741(BR)
Rosenbauer R. J. 2121, 2445
Roth S. 2525
Ruaya J. R. 1983
Rubin A. E. 425, 2549(E)
Rude P. D. 751
Rullkötter J. 1145, 2543(L)
Ryan J. G. 237(L)

Saikumar V. 715
Saliot A. 839
Salters V. J. M. 2177(L)
Sano Y. 1305(L), 2183(E)
Savin S. M. 2207
Savin W. 499
Sawka W. N. 1131
Saxena S. K. 505, 1195, 2549(E)
Sayles F. L. 2963
Scarfe C. 941
Scatena-Wachel D. E. 2573
Schaefer R. G. 701
Schenck P. A. 637, 1189, 2439
Schmitt R. A. 201, 1361, 2379
Schmitz B. 229(L), 1949(E)
Schneider E. 527
Schoonen M. A. A. 649
Schulz H. D. 2651
Sclar C. B. 1741(BR)
Scranton M. I. 2477
Sears D. W. G. 119, 1679, 1835
Seidemann D. E. 655
Seifert S. 603
Seitz J. C. 979
Settle D. 245(E)
Sharma S. K. 1961
Shaw D. M. 941, 2311, 2738(BR), 2738(BR), 2743
Shea D. 1815
Shemesh A. 2565
Shen J. J. 2687
Sheppard S. M. F. 513
Shergold J. H. 259
Shiller A. M. 1879
Shimizu N. 2177(L)
Shimmield G. B. 669
Shipp R. 2251
Shock E. L. 2009
Short S. A. 2555
Shuman M. S. 185, 195
Siegel D. I. 1521, 3023(E)
Siegel F. R. 949(BR)
Silvertooth J. C. 1883
Simon B. 1869
Sinninghe Damsté J. S. 2671
Sinton J. M. 2501
Smith J. V. 3026(BR)
Smith S. P. 1919
Southgate P. N. 259
Spackman W. 405
Spencer M. J. 265
Spencer R. J. 1027
Spiker E. C. 2679
Spivack A. J. 2767
Spooner E. T. C. 1065
Spycher N. F. 739
Stabel A. 449
Stafford T. W. Jr. 2257
Statham P. J. 2433
Stebbins J. F. 527, 2659, 3017(L)
Stein C. L. 1037
Sternberg L. D. 2189
Sterner S. M. 969, 989, 2451, 2549(E)
Stöeffler D. 2639
Stoessell R. K. 365
Stolper E. 1479
Stout S. A. 405
Strachan M. G. 1255
Strohmaier F. E. 1895
Stumm W. 1969
Suarez D. L. 2785
Summons R. E. 1747, 2625, 2733(L)
Sun S.-S. 2507

Sundararaman P. 2337(L)
Sutcliffe D. W. 223(L)
Swart P. K. 2855
Swindle T. D. 1113, 2215
Szacki W. 1497

Takahashi E. 942
Talman S. J. 1467
Tang Ming 1221, 1235, 1245
Tatsumoto M. 2909
Taviani M. 2077
Taylor L. A. 539
Taylor P. N. 209
Taylor S. R. 785(CC)
Tessier A. 1179
Thomas A. V. 1065
Thomson J. 1557
Tilton G. R. 1997
Titley S. R. 2235
Tomeoka K. 1627
Trefry J. H. 2369
Truscott M. G. 2311
Tuen E. 1997
Tuniz C. 499
Turekian K. K. 1197, 1383
Turi B. 1435
Turner A. M. 385
Turner G. 1443, 2487
Turner G. L. 2405
Tuross N. 929
Tzen-Fu Yui 593

Ujike O. 2037
Ulmer G. C. 1781, 2707

van de Graaf B. 1189
van der Eerden A. M. J. 1275
Van Der Sloot H. A. 2871
Van Der Weijden C. H. 2871
van Gaans P. 1203
Van Reenen D. D. 1057
Vanko D. A. 2451
Veizer J. 789(CC)
Velde B. 415
Venkatesan M. I. 217
Verkouteren R. M. 1835
Virgo D. 395, 1781
von Gunten H. R. 2693

Wakita H. 1305(L), 2183(E)
Walker W. J. 55
Wall V. J. 2065
Wallace H. E. 1557
Walther J. V. 2609
Wang Y. L. 201
Ward D. M. 2625
Wasserburg G. J. 2767
Wasson J. T. 425, 2549(E)
Weaver P. P. E. 1557
Webster J. D. 2091
Wehrli B. 1969
Weigel E. 1449
Weiner S. 2197, 2415, 2425
Weisberg M. K. 1835
Weliky K. 2717
Wells M. C. 1737(L)
Wentworth S. J. 909
Westrich H. R. 2795
Whiticar M. J. 1895
Wieland E. 1969
Wiens R. C. 295, 2775
Wijkstra J. 2871
Williams A. E. 1047
Williams D. B. 617
Williams Q. 283
Williams R. W. 939(AR)
Willsch H. 2879
Wilson P. N. 2053
Wilson T. R. S. 1557
Wolery T. J. 43
Wopenka B. 979
Woronow A. 2085
Worsley T. R. 798(BR)
Wright I. P. 917, 1221, 2855

Yardley B. W. D. 585(L)
Yen T. F. 359
Yoder H. S. Jr. 1961

Zachara J. M. 2281
Zahnle D. L. 2303
Zartman R. E. 1325, 1327
Zashu S. 19
Zika R. G. 1849
Zindler A. 319
Zinner E. 2147
Zinner E. K. 2841
Zolensky M. E. 909
Zullig J. J. 1667
Zumberge J. E. 2343(BR)